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An Improved System for Asset Visibility and Control of Army Materiel Command Industrial Plant Equipment

by Thomas F. Ferrara
Richard D. Goodfriend
Joel Morris

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<p>This study offered the Research Analysis Corporation the opportunity to examine a variety of critical problems affecting the management of industrial plant equipment under the control of the US Army Materiel Command. The RAC study team addressed this problem by taking the following steps: identifying the variety of criticisms that had been made over a span of several year by various Government auditing activities; associating these criticisms with specific underlying problem areas; associating an order of priority as to the sequence in which these problems should be resolved; and then proposing specific system changes to effect solutions for the problems with the higher priorities. This report documents how this was done and contains a series of proposed system changes which are noteworthy not only for their definitiveness and clarity of presentation, but also for the fact that they encompass organizational levels from the Department of Defense down to individual operating activities within the US Army Materiel Command.</p>		

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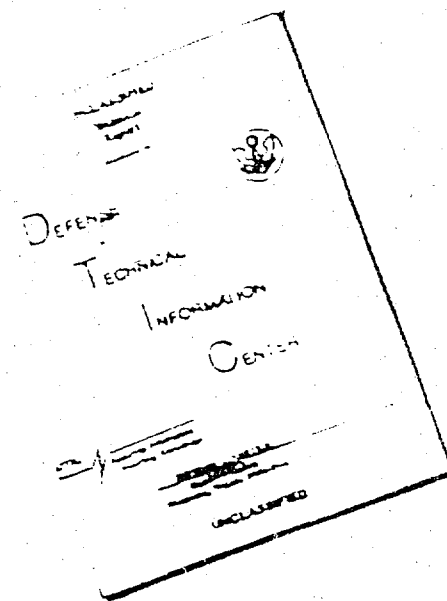
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Mobilization Reserve Package						
DIPEC (Defense Industrial Plant Equipment Center)						
Equipment Utilization						
Idle Equipment						
Asset Control						
IPE Management						
ASOD						
PEQUA (Production Equipment Agency)						
I&S (Installations & Services)						
Plant Survey						
Inventory Control						
Industrial Mobilization Production Capability						
Maintenance						
Life Cycle Analysis of IPE						

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Joel Morris

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1. RAC report, "An Improved System for Asset Visibility and Control of Army Materiel Command Industrial Plant Equipment," was prepared by the Research Analysis Corporation for the U. S. Army Materiel Command as a product of Task Order 71-21 to DAHC19-69-C-0017.
2. One aspect of this report deals with the feasibility of establishing a single manager within AMC for IPE. The study acknowledges but does not emphasize and weigh the fact that the Directorate of Requirements and Procurement controls the program governing the bulk, both in quantity and dollar value, of AMC IPE. This weakness should be kept in mind when reading or studying the report.
3. RAC has presented a systems concept and did not address costs and manpower required to implement the system. Under our current budgetary guidance, any implementation will necessarily be adjusted.
4. The findings of this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

FOR THE CHIEF OF RESEARCH AND DEVELOPMENT:

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Chief, Studies and Analyses Division

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FOREWORD

This study offered the Research Analysis Corporation the opportunity to examine a variety of critical problems affecting the management of industrial plant equipment under the control of the US Army Materiel Command. The RAC study team addressed this problem by taking the following steps: identifying the variety of criticisms that had been made over a span of several years by various Government auditing activities; associating these criticisms with specific underlying problem areas; associating an order of priority as to the sequence in which these problems should be resolved; and then proposing specific system changes to effect solutions for the problems with the higher priorities. This report documents how this was done and contains a series of proposed system changes which are noteworthy not only for their definitiveness and clarity of presentation, but also for the fact that they encompass organizational levels from the Department of Defense down to individual operating activities within the US Army Materiel Command.

Frank A. Parker
President

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SUMMARY

PROBLEM AND STUDY OBJECTIVE

Problem

Numerous inquiries during recent years by various investigatory agencies have continued to indicate that there are deficiencies in the manner and extent to which the Army has managed its current inventory of industrial plant equipment (IPE), for both current production and mobilization reserve purposes. The Army needs a better system for managing IPE to improve its operations and reduce the criticisms from these auditing agencies.

An ancillary problem was assigned by the Chief of Staff, Headquarters, Army Materiel Command (HQ AMC), namely, to examine possible organizational alternatives within AMC that would permit the integration and control of all IPE activities under a single management.

Objective

Primarily, to structure in order of importance IPE management areas that were designated as problem areas by Government auditing agencies and to identify the causes of these problems and ways in which they can be corrected. Achievement of the study objective would provide the Army with an improved system for the management of IPE and reduce or eliminate criticisms from the auditing agencies.

FACTS

IPE is defined as "...that part of plant equipment with an acquisition cost of \$1,000 or more; used for the purpose of cutting, abrading, grinding, shaping, forming, joining, testing, measuring, heating, treating or otherwise altering the physical, electrical or chemical properties or materials, components or end items, entailed in manufacturing, maintenance, supply,

processing, assembly, or research and development operations..." (Ref 1, para B 102.11).

It is important that an adequate quantity of IPE be available to the Government and its contractors for their use. The Government furnishes IPE to defense contractors to augment their capabilities to produce end items and components for the military. This type of IPE is referred to as "Government-furnished IPE." In addition to contractor-used IPE, the military uses IPE for manufacturing, maintenance, processing, and in research and development (R&D) operations.

The Army is the second largest holder of in-use IPE, with 30 percent of the DOD inventory. The Navy holds 44 percent and the Air Force 24 percent. With reference to layaway lines, however, the Army is the largest holder of IPE. It holds 96 percent in standby lines, 83 percent in active base packages, and 75 percent in package plants. As a major holder of IPE, Army management of IPE has been subject to severe criticism.

DISCUSSION

Eight studies²⁻⁹ that examined the management of IPE by the Army and other services have been conducted since December 1966. The studies have been conducted by the Government Accounting Office (GAO), Office of Assistant Secretary of Defense (OASD), Defense Supply Agency (DSA), and Army Audit Agency (AAA). Three studies in particular were directed at the Army's management of IPE. One study concerned inactive IPE at arsenals, another addressed active and inactive IPE at Army installations and contractors, and the third examined the management of idle IPE in mobilization reserve packages. The remaining five studies examined contractor and service requisitioning, utilization, maintenance, disposal, and reporting of IPE for both in-use and idle IPE. These audits have shown a need for overall improvement in the Army's management of IPE. Literally thousands of pages have been devoted by the auditing agencies to the identification of hundreds of criticisms of the services' management of IPE. Many of these criticisms were duplications that occurred year after year. A method was needed to identify the most fundamental and important of the criticisms of Army management of IPE.

The study approach to developing an improved Army asset visibility

and control system consisted of the following six steps:

(1) The life cycle concept of equipment was used as the basic framework for structuring the logistic functions related to IPE management. Eighteen management functions were delineated. The criticisms of Army management of IPE were analyzed against these functions.

(2) Current Department of Defense (DOD), Department of the Army (DA), and Army Materiel Command Regulations (AMCRs) were reviewed for IPE management policies and procedures.

(3) The Navy and Air Force systems for IPE management were compared to determine whether the Air Force or Navy had techniques that could be adopted by the Army.

(4) A comprehensive examination of the hundreds of auditing agency criticisms of Army management was conducted to determine the nature and causes of the criticisms. The criticisms were categorized as critical, important, or less important according to criteria developed by the study group. Nine critical and important problem areas were identified for resolution. They are shown in Table 1.

(5) An analysis of Army management methods was made to determine what controls were required to resolve these problems. Two types of controls were examined, i.e., controls to prevent the problem, and headquarter's reviews of performance.

(6) Suggestions for system changes to policies and procedures were formulated to improve IPE asset visibility and control and reduce the auditing agency criticisms of Army management of IPE.

With respect to the problem of determining possible organizational alternatives within AMC that would permit integration and control of all IPE activities under single management, two possible alternatives were suggested for consideration. The study team was instructed to pay particular attention to the question of consolidating all IPE activities under the Installations and Services Agency (ISA) or the Production Equipment Agency (PEQUA), both of which are physically located at Rock Island, Illinois. Consideration was given not only to current organizational systems of the Army, Navy, and Air Force for managing IPE, but also to the organizational systems within the three services for managing equipment in general. Particular recognition was taken of the fundamental procedural

Table 1
CRITICAL AND IMPORTANT PROBLEM AREAS

Rank	IPE problem area
Critical	<p>DIPEC not screened prior to purchase</p> <p>Deficient management of mobilization reserve package inventory</p> <p>Inventory records inaccurate and incomplete; inventory improperly administered</p>
Important	<p>Inadequate review and recertification of mobilization reserve packages</p> <p>Inventory reporting inaccurate and incomplete</p> <p>Inadequate surveillance to assure maximum use of IPE and reporting of idle IPE</p> <p>Loaned IPE renders mobilization reserve packages incapable of meeting production needs</p> <p>Excessive repair costs, poor maintenance records, noncompliance with and weak procedures for preventive maintenance</p> <p>Underreporting of idle/excess IPE</p>

differences for managing Government equipment in the hands of contractors as opposed to equipment in the hands of military activities.

CONCLUSIONS

More than fifty-four system changes were proposed by the study team to improve the Army's management of IPE. Solutions to the critical and important IPE management problem areas are presented in Table 2 in summary form. With respect to possible organizational alternatives within AMC that would permit the integration and control of all IPE activities under single management, it was concluded that the majority of IPE management functions relating to in-use and layaway IPE at military facilities should be integrated under the Directorate of Installations and Services (I&S), HQ AMC, and the ISA. The majority of IPE management functions relating to in-use and layaway IPE at contractor plants should be integrated under the Procurement Policy Division, Directorate of Requirements and Procurement (R&P), HQ AMC. While the foregoing is considered to be a practical long-term solution to the question of how far HQ AMC should go in integrating and coordinating all IPE under a single management, the need for immediate coordination in the implementation of the system changes proposed herein requires an interim organizational concept. The study team suggests that the Directorate of R&P be designated as the focal point for IPE matters with specific responsibility for coordinating through to implementation the system changes proposed by the RAC study team and approved for adoption by HQ AMC. When the proposed system changes have been adopted or discarded, in the majority or in toto, then the proposed long-term organizational solution may be instituted by HQ AMC.

Table 2
SUMMARY OF PROPOSED SYSTEM CHANGES TO IMPROVE
ARMY MANAGEMENT OF IPE

IPE problem area	Proposed system changes
<p>1. Deficient management of mobilization reserve package inventory</p>	<p>Mobilization requirement and package production capability identified to determine excess inventory</p> <p>Replacement dates required for replacing IPE shortages in package</p> <p>Repair dates and costs identified where maintenance action is required</p> <p>Justification required to substantiate differences between reported and actual inventory; action required to bring Defense Industrial Equipment Plant Center (DIPEC) and Army quantities into balance</p> <p>Replacement date for reactivated IPE required to reconstitute package capability</p>
<p>2. DIPEC not requisitioned and certificate of nonavailability (CNA) not obtained prior to purchase of IPE</p>	<p>Contractor must obtain CNA from the administrative contracting officer (ACO) prior to procurement</p> <p>Property administrator (PA) must inspect contractor acquisition process for CNA prior to procurement</p> <p>DIPEC to send a quarterly report of violators to ACO for effecting corrective action</p> <p>Army ACOs to conduct 100 percent inspection of industrial equipment costing over \$25,000 for proper IPE identification and CNA</p> <p>Installation equipment manager to assure receipt of CNA before requesting IPE procurement</p> <p>NICP item manager to reject requisitions without CNA</p>

Table 2 (continued)

IPE problem area	Proposed system changes
2. (continued)	<p>Local procurement activities to reject purchase requests without CNA</p> <p>Command Supply Discipline Program to examine for CNA</p> <p>DIPEC is to send a quarterly report of Army violators to HQ AMC for action</p> <p>Command Equipment Management Program Review (CEMPR) to conduct a 100 percent inspection of industrial equipment costing over \$25,000 for proper IPE identification and CNA citation</p>
<p>3. Inventory records inaccurate and incomplete; inventory improperly administered</p> <p>4. Inventory reporting inaccurate and incomplete</p>	<p>DIPEC to provide PA and procuring contracting officer (PCO) with a listing of contractor IPE holdings</p> <p>DIPEC to perform systematic inventories and reconcile records to contractor records/holdings</p> <p>The plant clearance officer to assure transfer reporting after IPE shipment and disposal</p> <p>Disposal reporting requirements in regulations brought into agreement</p> <p>DIPEC to provide PCO and ACO names of contractor operations in which there is late or nonreporting of IPE receipt, transfer, and disposal</p> <p>PA's annual system survey expanded to review timeliness of contractor reporting of IPE receipt, transfer, and disposal</p> <p>Installation equipment manager to assure timely reporting of IPE receipt and transfer</p> <p>Regulation revised to provide for notifying DIPEC of transfer</p>

Table 2 (continued)

IPE problem area	Proposed system changes
3 and 4 (continued)	<p>DIPEC to provide HQ AMC names of installations that violate reporting requirements to effect corrective action</p> <p>Regulations changed to require Property Disposal Officer (PDO) to report disposal within 30 days</p> <p>DIPEC to provide Army installations with list of holdings by UIC to facilitate IPE location</p> <p>DIPEC to perform systematic inventories and reconcile DIPEC records to reflect Army records/holdings</p>
5. Inadequate recertification and approval of mobilization reserve packages	<p>Mobilization contractor and/or Government plant maintaining mobilization reserve package identified on management control form</p> <p>Date of production agreement with contractor identified to reduce/eliminate delays in negotiating production agreements</p>
6. Loaned IPE renders mobilization reserve package incapable of meeting production goal	<p>Return or replacement date for monitoring return of loaned IPE required on management form</p>
7. Inadequate surveillance to assure maximum use of IPE	<p>DA establish policy on IPE utilization</p> <p>Long-term tests to be instituted by type of user to: (1) establish concepts and procedures for most efficient and economical use of IPE; (2) determine areas of best application of utilization history data; (3) determine efficacy of utilization standards; and (4) determine trade-off economics for collecting, analyzing, and applying utilization history data under various processes</p>

Table 2 (continued)

IPE problem area	Proposed system changes
7. (continued)	<p>Use time meters on high-priced IPE, i.e., \geq \$25,000</p> <p>AMC Inspector General (IG) inspection relating to IPE to be eliminated</p> <p>The DA Equipment Survey Program for AMC activities to be subsumed under the CEMPR</p> <p>CEMPR procedures changed</p> <p>HQ AMC to emphasize control of Government-owned contractor-operated/contractor-owned contractor-operated (GOCO/COCOs) with \$10 million or more of Government-owned IPE. Additionally conduct 100 percent sampling when surveying IPE with acquisition cost \geq \$25,000. Use modified Defense Contract Administration Services (DCAS) checklist form for survey results sent to HQ AMC</p>
8. Underreporting of idle/excess IPE	<p>Regulation to be changed to assure adherence to new reporting requirement, to reflect criteria for application, and need for 100 percent sampling during walk-through</p> <p>Use management indicator to monitor adherence to reporting of equipment as idle or excess</p> <p>Change regulations to clarify definitions of idle and excess equipment and reporting requirements</p> <p>Change regulations to distinguish between military services and DIPEC use of idle and excess terms</p> <p>CEMPR Guideline to review IPE in 3H status code</p>

Table 2 (continued)

IPE problem area	Proposed system changes
<p>9. Excessive and uneconomical repair costs; poor maintenance records; noncompliance with and weak preventive maintenance procedures</p>	<p>Compare actual and estimated repair costs</p> <p>Expand regulation to require requisitioning for replacement before major repair</p> <p>Major repair defined in regulation</p> <p>Maintain record justifying expenditure over limitations</p> <p>Additional approval required for repairs exceeding repair cost limitations</p> <p>Regulation revised to clarify repair cost limitation</p> <p>DIFEC to provide additional data for IPE availability</p> <p>Expand regulation to require automation of maintenance and preventive maintenance (PM) programs at all major AMC installations</p> <p>DOD, DA, and AMC to resolve status of draft publications on IPE maintenance</p> <p>AMC to review local regulations for compliance with AMC policy</p> <p>DA to publish guidance for developing IPE PM procedures</p> <p>Regulation to be clarified to permit use of existing maintenance record forms</p>

AN IMPROVED SYSTEM FOR ASSET VISIBILITY
AND CONTROL OF ARMY MATERIEL COMMAND
INDUSTRIAL PLANT EQUIPMENT

10a

(RAC)

ABBREVIATIONS

AAA	Army Audit Agency
ACO	administrative contracting officer
ACSFOR	Assistant Chief of Staff for Force Development
AF	Air Force
AFEMS	Air Force Equipment Management System
AFLC	Air Force Logistics Command
AIF	Army Industrial Fund
AMA	Air Materiel Area
AMC	Army Materiel Command
AMCR	Army Materiel Command Regulation
AMP	Army Materiel Plan
AR	Army Regulation
ARD	Automatic Release Date
ASA (I&L)	Assistant Secretary of the Army, Installations and Logistics
ASD	Assistant Secretary of Defense
ASPR	Armed Service Procurement Regulation
BEMO	Base Equipment Management Office
BPS	Base Retention Study
CEMO	Command Equipment Management Office
CEMPR	Command Equipment Management Program Review
CEMT	Command Equipment Management Teams
CG	Commanding General
CNA	certificate of nonavailability
CNM	Chief of Naval Material
COCO	contractor-owned contractor-operated
CSDP	Command Supply Discipline Program

DA	Department of the Army
DCAS	Defense Contract Administration Services
DCNM	Deputy Chief Naval Material
DCS	Deputy Chief of Staff
DCSLOG	Deputy Chief of Staff for Logistics
DCS Sys & Log	Deputy Chief of Staff Systems & Logistics
DIPEC	Defense Industrial Plant Equipment Center
DIPR/NIPR	Departmental Industrial Plant Reserve and National Industrial Plant Reserve
DLSC	Defense Logistics Support Center
DOD	Department of Defense
DODI	Department of Defense Instruction
DSA	Defense Supply Agency
DSAM	Defense Supply Agency Manual
EMO	Equipment Management Office
GAO	General Accounting Office
GOCO	Government-owned contractor-operated
GOGO	Government-owned Government-operated
GSA	General Services Administration
HEW	Department of Health, Education, and Welfare
HQ AMC	Headquarters, Army Materiel Command
I&L	Installations and Logistics
I&S	Installations and Services
ICP	inventory control point
IE	installation equipment
IG	inspector general
IPE	industrial plant equipment
ISA	Installations and Services Agency
MSC	major subordinate command
MTDA	Modification Table of Distribution and Allowances
MTOE	Modified Table of Organization and Equipment
NAEO	Naval Air Engineering Office
NARF	Naval Air Rework Facility
NARO	Naval Air Engineering Office
NAVAIRSYSCOM	Naval Air Systems Command

NAVCOMP	Naval Comptroller
NAVCOMFMAN	Naval Comptroller's Manual
NAVMATCOM	Naval Material Command
NAVMIRO	Naval Material Industrial Resources Office
NAVORDSYS COM	Naval Ordnance Systems Command
NAVSHIPSYS COM	Naval Ship Systems Command
NICP	National Inventory Control Point
NOISD	Naval Ordnance Industrial Systems Division
NPO	Navy Purchasing Office
NWISO	Naval Weapons Industrial Support Office
OASD	Office of the Assistant Secretary of Defense
OMA	operations and maintenance, Army
PA	property administrator
PCO	procuring contracting officer
PDO	property disposal officer
PEMA	Procurement of Equipment and Missiles, Army
PEQUA	US Army Production Equipment Agency
PM	Preventive Maintenance
PPB	planning, programming, budgeting
R&D	research and development
R&P	requirements and procurement
RDE	research, development, and engineering
RDTE	research, development, test, and engineering
RVP	reutilization value percentage
SAG	Study Advisory Group
SPEED	System-wide Project for Electronic Equipment at Depots
TAADS	The Army Authorization Documents System
TAMMS	The Army Maintenance Management System
TB	technical bulletin
TDA	table of distribution and allowances
TECOM	Test and Evaluation Command
TM	technical manual
TOE	table of organization and equipment
UIC	Unit Identification Code

Chapter 1 INTRODUCTION

PROBLEM AND STUDY OBJECTIVE

Problem

Numerous inquiries during recent years by various investigatory agencies have continued to highlight deficiencies in the manner and extent to which the Army has managed its current inventory of IPE, both for current production and for mobilization reserve purposes. The Army needs a better system for managing IPE to improve its operations and reduce the criticisms from these auditing agencies.

Objective

The objective of the study effort was to structure in order of importance IPE management areas that were designated as problem areas by Government auditing agencies, and to identify the causes of these problems and ways in which they can be corrected. Achievement of this objective would enable the Army to improve the system for the management of IPE and reduce or eliminate criticisms from the auditing agencies.

BACKGROUND

DOD-Army Inventory of IPE

IPE is used in the manufacture and maintenance of end items and components of materiel. It is important that an adequate quantity of IPE be available to the Government and its contractors for their use. The Government furnishes IPE to defense contractors to augment their capabilities to produce end items and components for the military. This type of IPE is

referred to as Government-furnished IPE. In addition to contractor-used IPE, the military uses IPE for manufacturing, maintenance, processing, and in R&D operations.

IPE is defined as "...that part of plant equipment with an acquisition cost of \$1,000 or more; used for the purpose of cutting, abrading, grinding, shaping, forming, joining, testing, measuring, heating, treating or otherwise altering the physical, electrical or chemical properties or materials, components or end items, entailed in manufacturing, maintenance, supply, processing, assembly, or research and development operations..." (Ref 1, para B 102.11)

IPE within DOD as of 31 March 1970 amounted to over \$4.2 billion, as shown in Fig. 1. The dollar value of active IPE accounts for most of this total. Active IPE is that which is currently in use. IPE designated as part of a package refers to IPE in mobilization reserve packages, commonly referred to as "layaway lines," which may be used for future production of end items or components of material. This reserve production capability is required to augment actual production during national emergencies. The idle IPE shown in Fig. 1 refers to IPE within DOD that is not currently being used and is available for reallocation to users.

Figure 2 shows the distribution of active IPE within DOD. The Army is the second largest holder of active IPE, with 30 percent of the inventory. The Navy holds 44 percent and the Air Force 24 percent. With reference to layaway lines, however, the Army is the largest holder of IPE (Fig. 3). It holds 96 percent in standby lines, 83 percent in active base packages, and 75 percent in package plants. Each type of layaway line designates the type of facility holding the IPE and the ability of the line to be activated as a complete production unit.

The dispersion of active and idle IPE within the Army is shown in Table 3. AMC is responsible for over 97 percent of the Army's IPE. It is held at contractor-operated facilities, Army arsenals, R&D facilities, depots, support centers and storage points. There is a difference in the method of IPE management at these facilities. Contractor-operated facilities using IPE are governed by the Armed Services Procurement Regulations (ASPRs) whereas AMC facilities are governed by Army Regulations (ARs) and AMCRs.

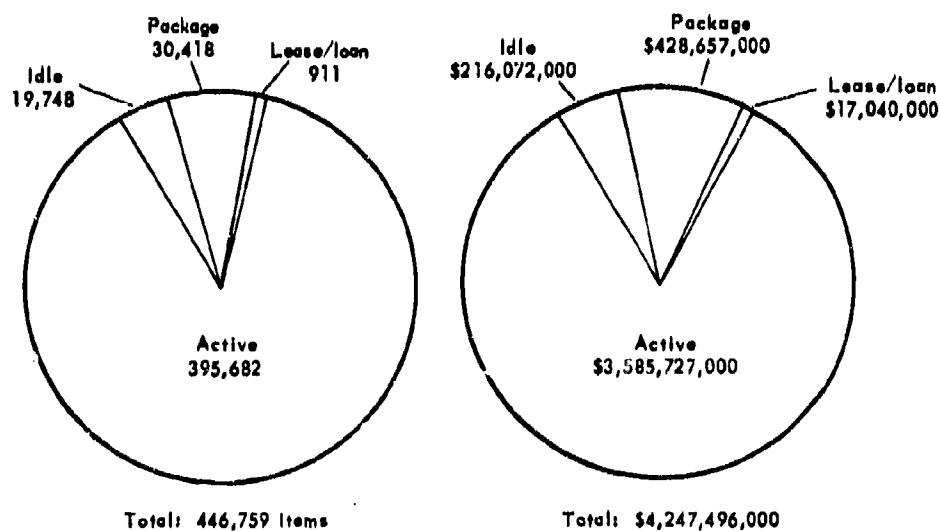
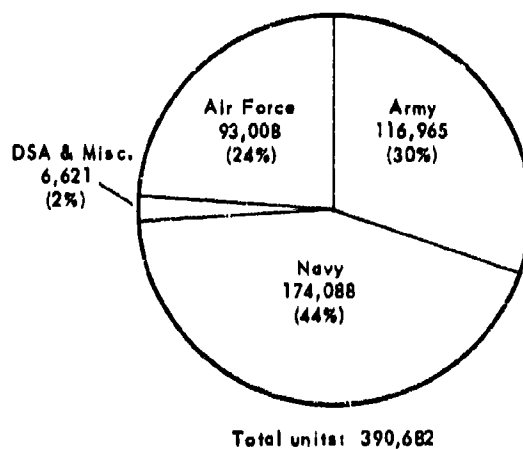
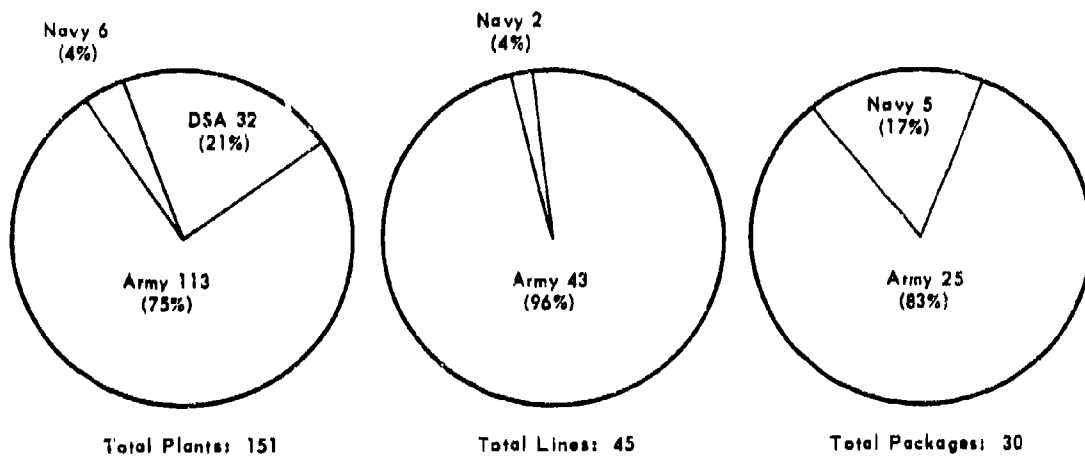


Fig. 1—Total DOD Inventory, 31 Mar 70



**Fig. 2—Distribution within DOD of In-Use IPE (Active), 31 Mar 70
Other than loan/lease.**



**Fig. 3—Distribution within DOD of Layaway Lines,
31 Mar 70, by Type Line**

Table 3
DISPERSION OF ARMY IPE BY ACCOUNTABILITY SYSTEM AND HOLDER
(Dollars in Millions)

Com- mand	Holder/Type Activity	ASPR		AMC		TOE/MICE TDA/MIDA Active
		Active	Idle	Active	Idle	
AMC	COCO	21,116 \$258.2	4,116 \$83.6			Not Available
	GOCO	24,467 \$272.4			11,336 \$177.0	Not Available
	Government owned-Government operated (GOCO) Arsenals			19,691 \$175.6	4,941 \$82.3	Not Available
	RDE Facilities					
	Laboratories & Centers					
	Testing Activities					
	Comm Comd In-house R&D					
	COMUS Depots/MICE Centers					
	Project Managers					
	Support Centers					
Non- AMC	DIPEC				3,659 \$54.8	2,936 \$13.6
	Overseas Depots/Posts/ Camps/Stations					Not reported
	Troop Units					
	TOTALS	45,583 \$530.6	4,116 \$83.6	19,691 \$175.6	19,936 \$314.1	25,089 \$142.3

22,153
\$128.7
(Not available by type
activity)

^aMICE, Modification Table of Organization and Equipment; TDA, Table of Distribution and Allowances;

Table of Distribution and Allowances. TDA, Table of Distribution and Allowances. TDA is due mainly to the fact that

The inconsistency between Fig. 2 and Table 3 as to the total quantity of Army-held IPE is due mainly to the fact that
in order to achieve the breakout in Table 3 the study was forced to use a variety of source documents from differing time periods.

DOD Organization for IPE Management

A comprehensive discussion of departmental organizations for IPE management is provided in Chap 7. A general description is given below. The principal levels of management for the three services is shown in Fig. 4.

Air Force Organization. At the Department of Air Force level, the Deputy Chief of Staff for Research and Development (DCS R&D) is concerned with contractual efforts (e.g., COCO and GOCO), as well as those Air Force military activities engaged in research and development. The Deputy Chief of Staff for Systems & Logistics (DSC Sys & Log) is concerned with all other Air Force facilities. The counterpart of the DCS R&D at the next level is the AF Systems Command, which controls, in a line capacity, the test and special weapons centers, the laboratories, and the management of contracts relating to R&D as well as production efforts.

The AF Logistics Command (AFLC) is the counterpart of the DCS Sys & Log. It controls the air materiel areas (AMAs), which are somewhat analogous to the Army's commodity commands minus their R&D missions. At the headquarters level, AFLC, the Directorate of Materiel Requirements under the DCS Materiel Management plays a key role in equipment management.

Navy Organization. The office of the Deputy Chief of Naval Operations (Logistics), does not concern itself with IPE, per se. The AMC counterpart within the Navy is the Naval Material Command. IPE in the hands of contractors is administered through the Contracts Administration Division of the Deputy Chief of Naval Material-Procurement and Production, whereas IPE in Naval Facilities is controlled by the Directorate of Installations and Industrial Resources under the Deputy Chief of Naval Material Logistic Support. The Naval system commands—the closest Navy counterpart to the Army's commodity commands—perform in a line capacity to the Chief of Naval Material. The largest users of IPE within the Navy are reported to be the Air Systems Command, the Ordnance Systems Command, and the Ship Systems Command. Broad guidance is disseminated from the Deputy Chief of Naval Material (DCNM) level. Each systems command is organized uniquely and interprets the DCNM policy and guidance for application to the facilities under its control. The Naval laboratories are controlled by the Director of Navy Laboratories under the DCNM for Development.

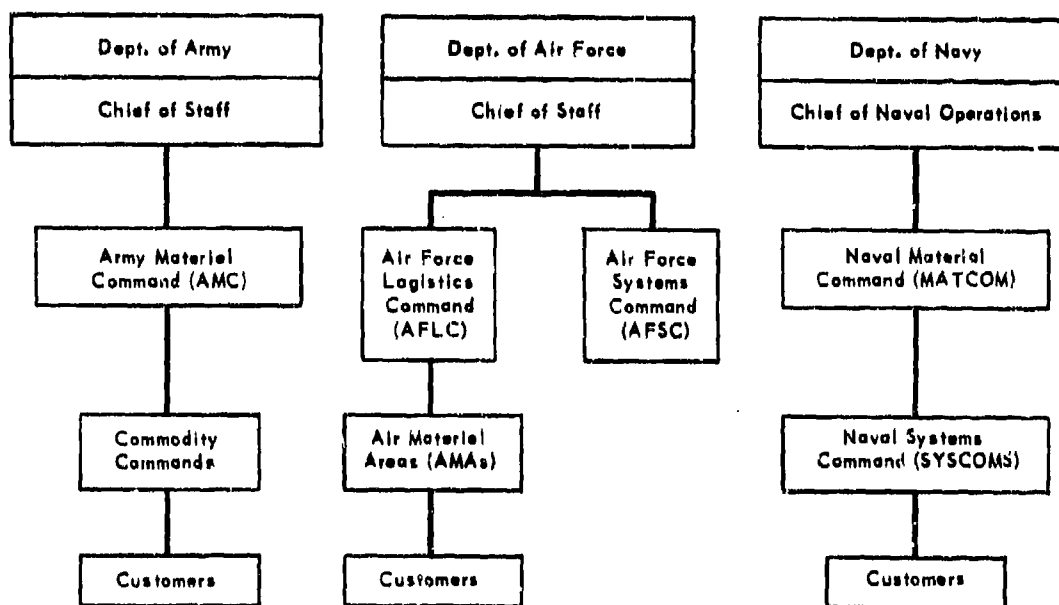


Fig. 4—Comparison of Logistics Organizational Structures

Army Organization. Figure 5 illustrates the principal activities within DA that participate actively in IPE management. At the DA level, the Deputy Chief of Staff, Logistics (DCSLOG), promulgates policy for IPE management as related to the Industrial Preparedness Program. This policy affects arsenals and contractor facilities at the AMC level. It has no impact on AMC facilities such as laboratories, maintenance depots, proving grounds, etc.

Control of the planning, programming, and budgeting aspects of IPE management rests at the HQ AMC level with three principal directorates: the Directorate of R&P, which has responsibility for the FEMA funds, the Directorate of RDE responsible for RDT&E funds, and finally, the Directorate of Maintenance which has responsibility for operations and maintenance, Army (O&MA) funds. Two divisions of the Directorate of R&P participate actively in IPE management. The Procurement Policy Division concentrates on policy matters relating to IPE management in contractor operations. The Industrial Preparedness Division is responsible for consolidating equipment requirements, including IPE, for FEMA funded purposes, including the contractor requirements but excluding FEMA funds for IPE to be used in maintenance depots. The Special Assistant for Depots has cognizance over the depots. Commodity commands, under which the arsenals operate, report to the Commanding General/Deputy Commanding General, HQ AMC.

PEQUA is a Class II activity that reports to the Directorate of R&P, HQ AMC. PEQUA is largely limited to those activities falling within the Industrial Preparedness Program. It is active in the coordination and evaluation of proposed lay-away programs, modernization programs, and manufacturing methods and technology programs.

ISA is also a Class II activity. It reports to the Directorate of I&S, HQ AMC. ISA's mission is to serve as the technical arm of the Directorate, I&S, HQ AMC. The equipment Management Branch of this agency has responsibility for equipment at installations.

Defense Industrial Plant Equipment Center. DIPEC operates under the direction of the Director, DSA and manages the DOD IPE program to ensure the reutilization of available assets. It is responsible for the composition, maintenance, and control of a balanced reserve of IPE. Its responsibilities include technical direction of central storage sites,

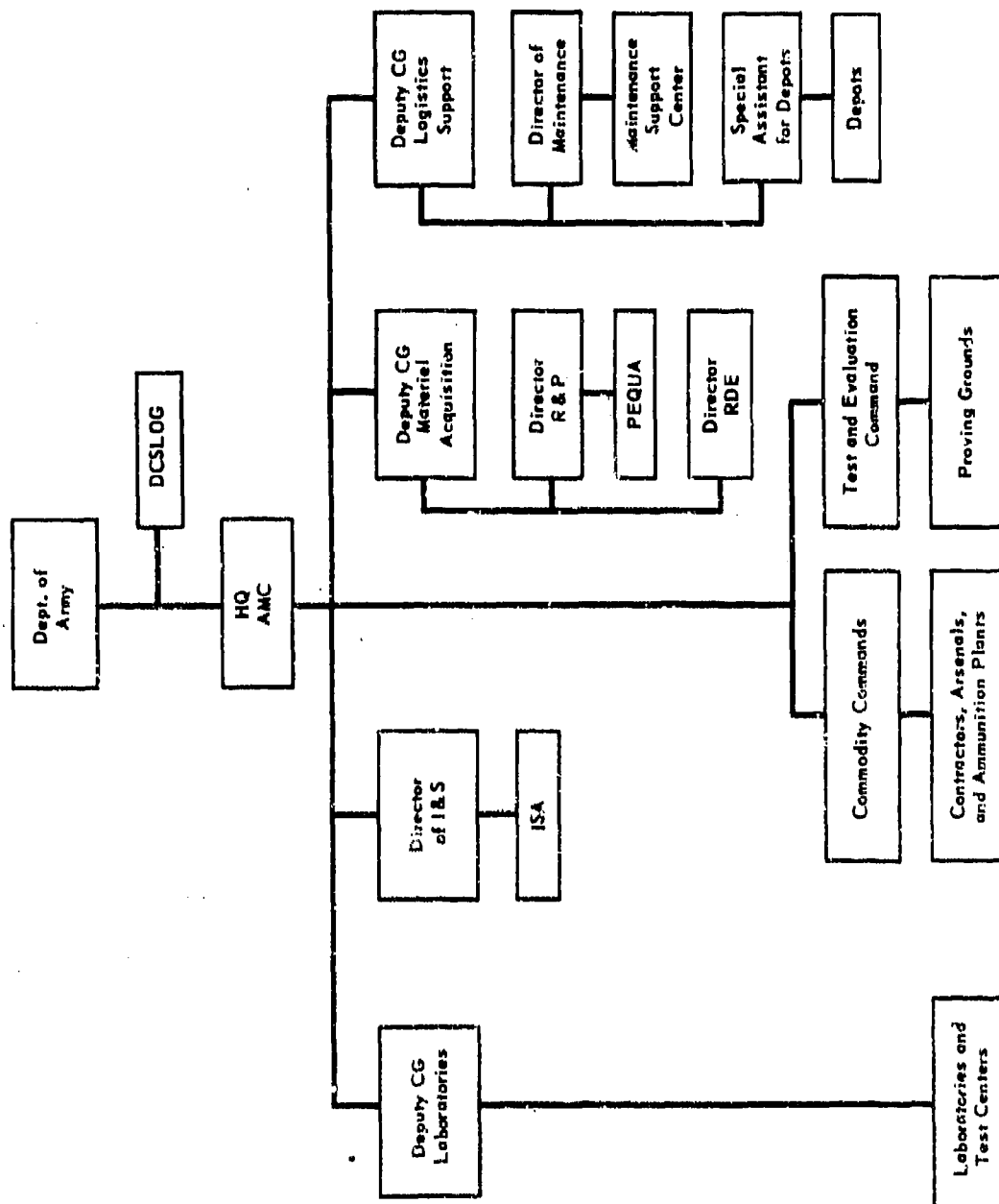


Fig. 5—DA/AMC Organizational Structure Pertaining to IPE Management

maintenance of the master inventory of all IPE, centralized inventory control of idle IPE, development of a uniform system of equipment coding, recording and reporting, and monitoring the disposal of excess IPE.

AUDITING AGENCY CRITICISMS OF ARMY MANAGEMENT OF IPE

Because of Congressional interest in the management of Government-owned IPE, various auditing agencies are constantly reviewing the Army, Navy and Air Force's management of IPE at service installations and contractor operations. Eight studies²⁻⁹ have been conducted since December 1966.

Three studies in particular were directed at the Army's management of IPE. The May 1968 study was concerned with inactive IPE at arsenals, the November 1969 study addressed active and inactive IPE at Army installations and contractors, and the October 1970 study examined the management of idle IPE in mobilization reserve packages. The other five studies examined contractor and service management, utilization, maintenance, disposal, and reporting of IPE. The studies have examined the management functions associated with IPE including acquisition (requisitioning and procurement), utilization, maintenance (of active and in storage IPE), modernization, reporting, and mobilization. During their studies the auditing agencies visited service installations and contractors to review management practices for adherence to prescribed regulations. Within the Army the audits have almost exclusively concentrated on IPE management at AMC facilities, or AMC-controlled activities, e.g., COCO and GOCO facilities. This was to be expected since AMC is responsible for almost all Army reported IPE.

ASSUMPTIONS

Auditing agency criticisms of IPE management were accepted at face value. A RAC audit of AMC management of IPE was not proposed since so many studies had already been performed. It was assumed that the problem areas had been correctly identified. However, the study group realized that some of the criticisms were of questionable validity and that others had been refuted. All criticisms were considered only to assure that all possible areas of AMC IPE management were subject to RAC review for possible improvement.

SCOPE

This study concentrated on identifying and providing solutions to those most critical and important IPE management problem areas that have plagued the Army during the past 6 years. These areas of IPE management deficiency have been continually criticized by various Government auditing agencies. Suggested changes to improve the AMC management of IPE were proposed, to be implemented insofar as possible, within the framework of existing DOD/DSA/DA and AMC regulations.

During the course of the study, several other problem areas were identified but were mutually agreed between RAC and the client not to be within the purview of the study. These problems included: (1) the ambiguity in definition of IPE; fluctuations in Federal supply classification, (2) questionable validity of the dollar breakpoint in IPE designation, and (3) the lack of uniformity among services in item coverage.

APPROACH TO ACHIEVING STUDY OBJECTIVE

The study approach to developing an improved IPE asset visibility and control system is illustrated in Fig. 6. The most important aspects of the approach are discussed below.

(1) The life cycle concept of materiel was used as the basic framework for analyzing the logistic functions relating to Army IPE.

(2) The prevailing DOD, DA, and AMCR regulations were reviewed for IPE management policies and procedures.

(3) The IPE management systems of the Army, Navy, and Air Force were compared.

(4) An extensive examination of auditing agency criticisms of Army management was conducted to determine the nature and causes of the criticisms.

(5) An analysis of Army management controls was made to determine what controls were required to develop an improved system for Army management.

(6) Suggestions for system changes to policies and procedures were formulated to improve IPE asset visibility and control and reduce auditing agency criticisms of Army management of IPE.

Each of these aspects of the study approach are described in more detail below.

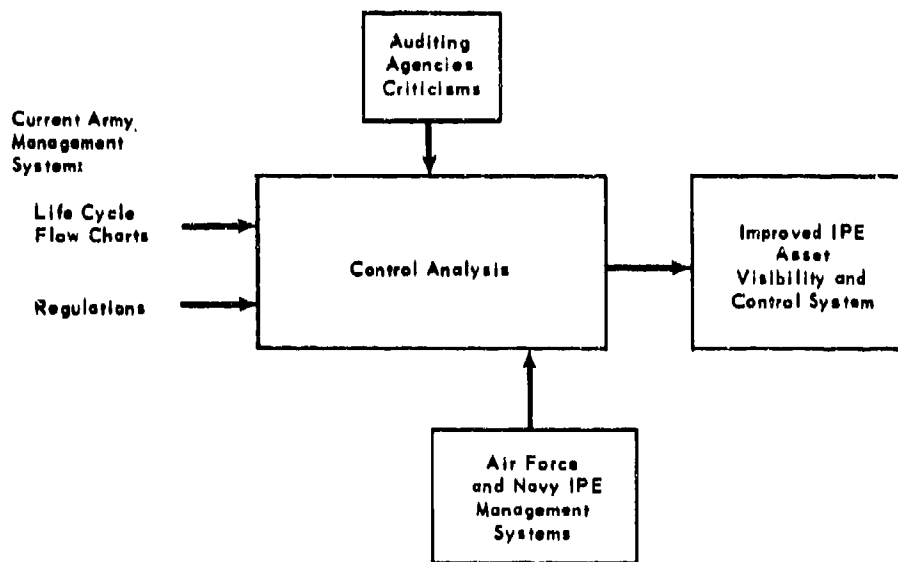


Fig. 6—Methodology for Developing an IPE Asset Visibility and Control System

Life Cycle Concept

The management of IPE was correlated with the phases used for the life cycle of materiel to assure that all areas of management during the existence of IPE were identified. This included the life cycle phases of requirements determination, acquisition, distribution, maintenance, and disposal. Within each of these phases IPE management functions were defined. A total of eighteen management functions, shown in Table 4, were identified. Definitions of these functions are given in App A.

Figure 7 shows the generalized concept for IPE management that was developed by the study group. The heavily outlined boxes in the flow chart indicate the problem areas that were addressed during the study.

Current Army System for IPE Management

A comprehensive set of 19 flow charts was developed by the study group to depict current Army processes of IPE management. Each flow chart, however, did not describe just one of the 18 management functions since one chart can illustrate more than one function. Three flow charts described the requirements life cycle phase and illustrated the authorization process, military supply system, and funding documentation. The acquisition phase was described in terms of requisitioning, procurement, and IPE transfer. The distribution phase accounted for the majority of flow charts and included illustrations of mobilization reserve package management, processing loans to other users, storage and transportation, reporting, inspection, and contract termination. The maintenance phase portrayed maintenance operations for both active and idle IPE. Disposal (i.e., IPE disposition) was illustrated by plant clearance and base closure operations. Other flow charts illustrated the life cycle concept for IPE management from the property administrator's viewpoint.

The flow charts have had useful applications. They are the first set of flow charts ever developed that depict the Army's management of IPE over the life cycle. Second, they provide an overview of the functional responsibilities of organizations both internal and external to the Army and serve as a basis for communication between these functional organizational elements. Third, they serve as a base line for evaluating the Army's IPE management system and for identifying system deficiencies, system responsibilities,

Table 4

FRAMEWORK FOR ANALYSIS
OF AUDITING AGENCY CRITICISMS

Life Cycle Phases	IPE Management Functions
Requirements (Planning, Programming and Budgeting)	Operational Requirements Determination Mobilization Requirements Determination Authorization
Acquisition	Identification Requisitioning Procurement Loan/Lease (Receipt) Receipt
Distribution	Property Accountability Utilization Redistribution Loan/Lease (Out of layaway) Storage and Shipment
Maintenance	Preventive Maintenance Repair Overhaul/Rebuild
Disposal (Disposition)	Idle/Excess Reporting Disposition

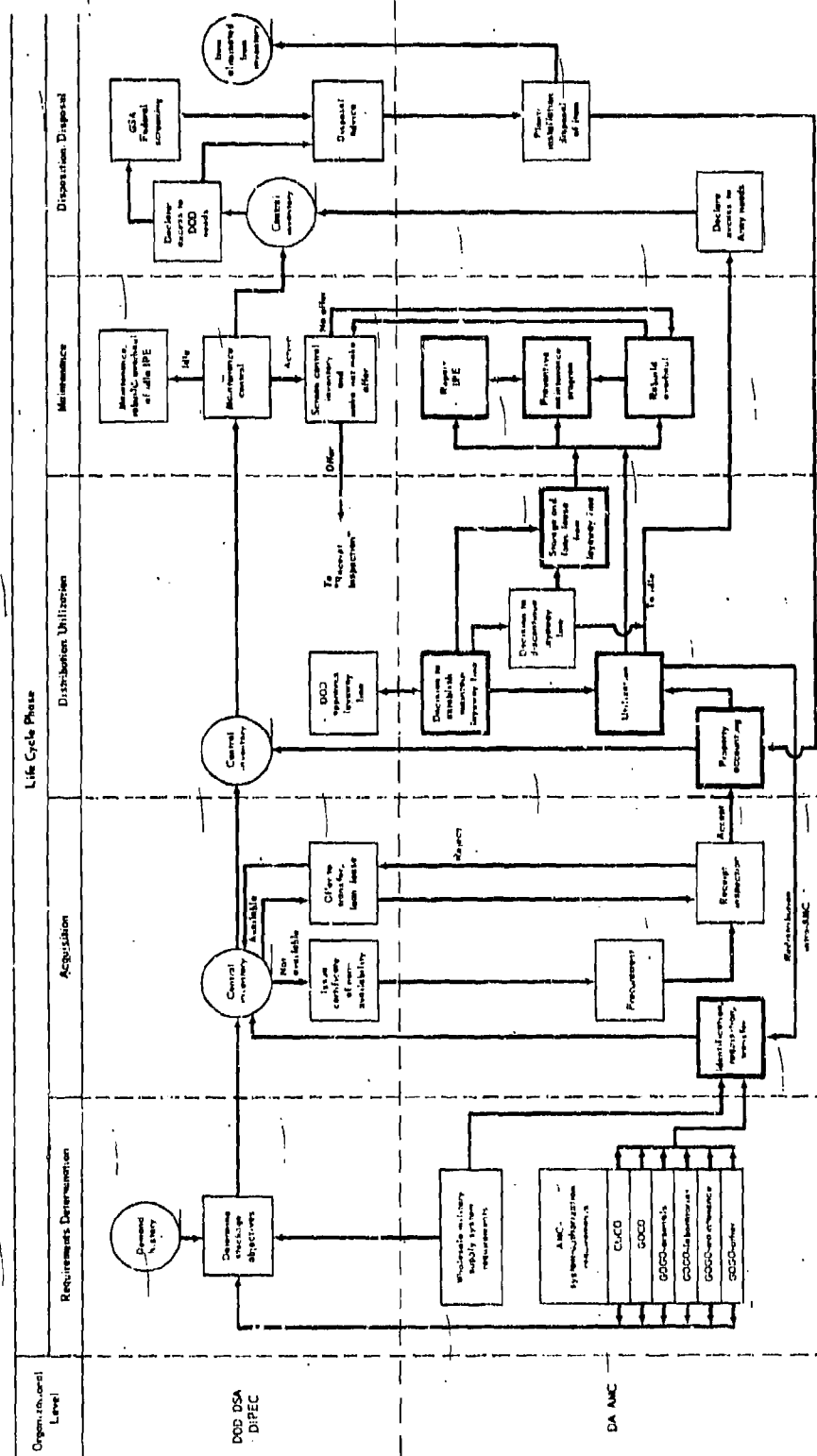


Fig. 7.—General Logic Diagram—Life Cycle of IPE Management

and redesign of the system. Fourth, they serve as a comprehensive diagram of IPE management that can be incorporated into Army regulations. Lastly, they serve as a training aid.

Prevailing Regulations, Directives, and Memorandums

Considerable study effort was devoted to analysis of the multitude of regulations, directives, and memorandums pertaining to IPE. Many of these regulations were overlapping and several were conflicting. A distinction was made between regulations for contractor operations (e.g., governed by ASPR) and DOD, DA, and AMC regulations that govern Army activities. The regulations, directives, and memorandums were reviewed for policies and procedures prescribing IPE management.

Air Force and Navy IPE Management Systems

The Air Force and Navy systems for IPE management were investigated. The study group sought useful techniques that could be used in Army management of IPE. Applicable Air Force and Navy manuals, regulations, and memorandums were reviewed and interviews conducted at various echelons of Air Force and Navy organizations to determine how these services were organized to perform IPE management, where decisions were made, and the nature of their controls for IPE management. The manner in which they managed problem areas was of paramount importance to the study group in its analysis and comparison of service management.

Auditing Agency Criticisms

As mentioned previously, eight studies²⁻⁹ have been conducted by various Government auditing agencies since 1966, which have criticized the management of IPE at military and contractor operations. Literally thousands of pages have been devoted by these agencies to the identifications of hundreds of criticisms.

A method was needed to identify the most fundamental and important of the criticisms. In reviewing these criticisms the study group assumed that the problems did exist as portrayed and that they had been properly identified. The criticisms were accepted at face value although it was realized that some were of questionable validity or had been refuted by the Army.

They were considered to ensure that all possible areas of IPE management deficiencies were identified. The criticisms were structured by IPE management function within life cycle phases.

In order to identify the most important and long lasting of the problem areas, criteria were developed for ranking the criticisms. The criteria are shown in Fig. 8. The criteria reflect elements having a high interest value to the DOD and DA since they affect the Army's capability to perform its mission and operate with reasonable economy. Three categories of problems were identified—critical, important, and less important. In order to qualify as critical, the problem had to affect at least four of the criteria. For example, an inventory problem that is critical affects the Army's ability to perform its mission, large dollar values of IPE, many Army or contractor organizational elements, and DIPEC's reutilization mission. Table 5 lists the resulting array of critical, important, and less important IPE problem areas.

At the direction of the Army's Study Advisory Group, the study team concentrated on solutions to problems designated as critical and important. Each problem area was expressed as a summary problem statement (e.g., deficient management of ASD inventory) but could represent from 1 to 10 different criticisms within the same area. An example is given for "deficient management of ASD inventory" in Fig. 9, which represents five criticisms in ASD inventory. They occur at contractor operations (COCO and GOCO) and Army installations (arsenals).

Analysis of Controls Required

During this stage of the study, the current system for IPE management, applicable regulations, auditing agency criticisms, and strengths and weaknesses of the Air Force and Navy management systems were analyzed collectively to determine the type of IPE control required for more effective Army management of IPE.

Problem areas were evaluated to determine the type of controls the Army applied. Two types of controls were identified. The first relates to preventing the problems from occurring and involves a decision at head-quarter's level for approval or disapproval. An example is inadequate recertification of layaways, and loans rendering layaway lines incapable

CRITERIA FOR RANKING CRITICISMS

AFFECTS:

- Army's capability to perform its mission
- Large \$ value of Army IPE
- Many Army/contractor organizational elements
- High operating costs for Army
- DIPEC's reutilization mission adversely

Category	Number of criteria needed to qualify
Critical	4-5
Important	3
Less important	1-2

Fig. 8—Criteria for Ranking Criticisms

Table 5
SUMMARY OF IPE MANAGEMENT PROBLEMS

Rank	IPE problem area
Critical	<p>DIPEC not screened prior to purchase</p> <p>Deficient management of mobilization reserve package inventory</p> <p>Inventory records inaccurate and incomplete; inventory improperly administered</p>
Important	<p>Inadequate review and recertification of mobilization reserve packages</p> <p>Inventory reporting inaccurate and incomplete</p> <p>Inadequate surveillance to assure maximum use of IPE and reporting of idle IPE</p> <p>Loaned IPE renders mobilization reserve packages incapable of meeting production needs</p> <p>Excessive repair costs and poor management records</p> <p>Underreporting of idle/excess IPE</p>
Less important	<p>Inadequate review of and economic justification for replacement/modernization</p> <p>Projected industrial operational requirements not being sent to DIPEC</p> <p>Projected industrial mobilization requirements not being sent to DIPEC</p> <p>MILSTRIP requires modification to accommodate to DIPEC requisitioning procedure</p> <p>Procurement operations deficient</p> <p>Contractor exceeded 30-day criteria for initial reporting</p> <p>Contractor use or rental of IPE not in best interest of government</p> <p>Unnecessary shipment to storage sites during realignment period</p> <p>Noncompliance with and weak procedures for preventive maintenance*</p> <p>Items disposed of without DD Form 1342 sent to DIPEC</p>

*By direction of the client, the problem was incorporated for RAC study and solution with the "important" problem, "Excessive repair costs and poor maintenance records."

Distribution	Property Accountability	Critical criticism	Army				Navy	Air Force
			COCO	GOCO	Ar-senal	Depot R&D		
		<div> • Deficient management of ASD*Inventory </div> <div> Reactivation/Loans of IPE rendered ASD incapable of meeting purpose </div> <div> Number of ASDs and IPE at facility different from DIPEC number </div> <div> Idle IPE retained with no identifiable mobilization requirement, held for overall mission </div> <div> IPE retained in excess of ASD production need </div> <div> DIPEC not screened for shortages or unserviceable </div>						
				X	X			
				X	X		X	
					X			
			X	X	X			
					X			

Fig. 9—Deficient Management of ASD Inventory

*Army personnel have the practice of referring to mobilization reserve packages of IPE as "ASODs." This came about as a result of the need for the Office of the Assistant Secretary of Defense (OASD) to approve the establishment of such a package. An approved mobilization reserve package also was given a unique, designating number by the OASD. In this and subsequent figures do well as the text, the more correct acronym "ASD" has been used in lieu of "ASOD" to designate these packages.

of meeting production goals. Another type of control was designated as a response to an auditing agency inspection. Here HQ AMC reviewed the major subordinate command's response to the criticism of the auditing agency. This type of control is not as effective as a preventive control since it is an after-the-fact review. It was found that although the sources of many of the problems were at the plant or installation level the major subordinate commands were expected to control IPE management problem areas with minimal or no feedback to HQ AMC. Further, HQ AMC appeared to rely most heavily on auditing agencies to ascertain the effectiveness of the major subordinate commands in controlling IPE management. It was noted that there was a lack of controls at both the HQ AMC level and major subordinate commands to ensure that problem areas were resolved and that they would not reoccur. Data required for proper decision making, monitoring, and control was not available at the HQ AMC level.

Suggested System Changes

Specific deficiencies were identified and suggestions developed to resolve the problem areas in the current system for Army and contractor management of IPE. These suggestions primarily took the form of changes to existing organization structure, policy, and procedures.

Organization and Scope of Document

For purposes of problem study, solution, and presentation some of the critical and important problems were aggregated. For example three of the nine problems related to the general subject of management of IPE in mobilization reserve packages. Similar treatment was afforded problems in the general areas of property accountability, and to IPE utilization and reporting of idle IPE. The nine critical and important problems have been covered in succeeding chapters in the following manner:

<u>Problem Statement</u>	<u>Chapter Coverage</u>
DIPEC not screened prior to purchase	3
Deficient management of mobilization reserve package inventory	2
Inventory records inaccurate and incomplete; inventory improperly administered	4

<u>Problem Statement</u>	<u>Chapter Coverage</u>
Inadequate review and recertification of mobilization reserve packages	2
Inventory reporting inaccurate and incomplete	4
Inadequate surveillance to assure maximum use of IPE and reporting of idle IPE	5
Loaned IPE renders mobilization reserve packages incapable of meeting production needs	2
Excessive repair costs, poor maintenance records, noncompliance with and weak procedures for preventive maintenance	6
Underreporting of idle/excess IPE	5

Chapter 7 has been devoted to a task assigned to the RAC study team by the Chief of Staff, HQ AMC. Basically the study team was asked to examine possible organizational alternatives within AMC that would permit the integration and control of all IPE activities under a single management. IPE management at present is organized largely along functional organizational lines. The AAA took note that this method of managing IPE was a factor in many of the problems they had noted (Ref 6, para 2d). The problem, although not related directly to problem findings of the investigatory reports²⁻⁹, relates quite closely to the general subject of IPE management.

Chapter 2

PROPOSED RESOLUTION OF CRITICISMS RELATING TO MANAGEMENT OF IPE IN MOBILIZATION RESERVE PACKAGES

NATURE OF PROBLEMS/CRITICISMS

The Army's management of IPE in mobilization reserve packages has been subjected to three general types of problem, as described below.

Inadequate Process Recertification and Approval of Mobilization Reserve Packages

Auditing agencies noted that the recertification and approval process permitted the recertification and approval of mobilization reserve packages for which a specific contractor or Government plant had not been selected or reserved. The Army was also criticized for permitting excessive delays in negotiating production agreements with contractors.

Deficient Management of Mobilization Reserve Inventory

Specific criticisms within this problem area included the retention of IPE in excess of the Army's mobilization requirement either because there was no identifiable mobilization requirement or because the IPE was retained as part of the facility's mission support equipment. The IPE represented an excess of production capacity for the mobilization reserve package. Other specific criticisms included reactivation of IPE within the mobilization reserve package rendering it incapable of meeting its intended purpose; not screening DIPEC for mobilization reserve package shortages or unserviceables; IPE requiring repair; and differences between DIPEC and Army records relative to the number of mobilization reserve packages and IPE.

Loaned IPE Renders Mobilization Reserve Packages Incapable of Meeting Intended Production Goals

Within this area of criticism auditing agencies faulted the Army for lending IPE from mobilization reserve packages with no assurance of their return or replacement. In addition loans were not reported to DIPEC in order that DIPEC might adjust its IPE inventory record to show the possessor and location of the IPE.

CURRENT SYSTEM AND EVALUATION--ARMY

Mobilization Reserve Package Recertification and Approval

Under the current system for mobilization reserve package recertification and approval, Fig. 10, Col a, the major subordinate command (MSC) prepares and reviews supplementary mobilization reserve package data. The supplementary data consists of the ASD approval number, end item, planned producer and location, and the location of the IPE. During recertification, mobilization data is used for reviewing the need for the mobilization reserve package. The major subordinate commander reviews the supplementary data, mobilization requirements and production capability, and signs the Format B (Certification - Package or Standby Line) which verifies that the mobilization reserve package was reviewed and meets the retention criterion of DODI 4215.18.¹⁰ This criterion specifies that the mobilization reserve package is required to meet critical mobilization needs. The Format B and the supplementary data are then forwarded to HQ AMC for approval by the Director of R&P, who forwards it to the FEMA Division of the DCSLOG, who, in turn, approves and forwards it through channels to OASD. The current recertification process emphasizes the need for the mobilization reserve package. Little attention is given to the integrity of the package or condition of the IPE.

In effect, but only recently implemented (see Fig. 10, Col b), AR 700-90 (Ref 11, pp 5-10) requires that an ASD Status Report, ECS DD I&L (AR 642), accompany the Format B. The ASD Status Report is being submitted annually with quarterly changes. It is used in conjunction with and should be reconciled to the Army Materiel Plan (AMP) and the Departmental Industrial Plant Reserve and National Industrial Plant Reserve (DIPR/NIPR) Report for identification of the mobilization requirement for the mobilization reserve package.

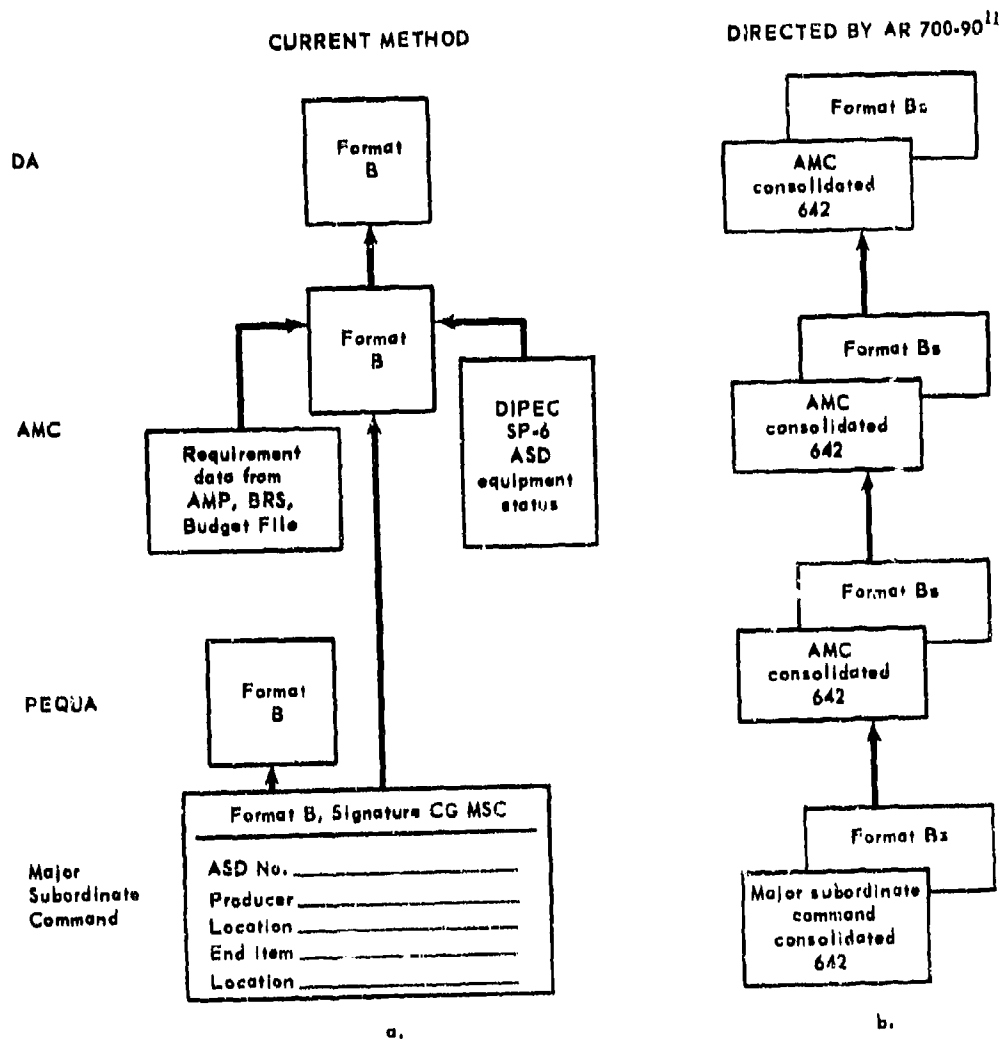


Fig. 10—Comparison of Data Flows for Mobilization Reserve Package Recertification and Management—Current System Compared with System under Implementation

Management of Mobilization Reserve Package Inventory

Mobilization reserve package inventory is managed in the following manner: voids are filled by sending requisitions to DIPEC. The voids are surfaced when the mobilization reserve package is reviewed or when a contractor asks for IPE never given him as part of the package that was negotiated.

Under the ASPRs, the reporting of IPE in excess of Army needs in mobilization reserve packages at contractor plants that are administered by DCAS is the responsibility of administering DCAS personnel. Excess mobilization reserve package IPE in contractor plants administered by Army contracting officers is determined through ASFR procedures and staff visits in which the IPE is reviewed. DIPEC Form 162 (IPE Inventory Record) has been used for reconciling inventory not in central storage, since DIPEC is accountable for IPE in central storage. IPE that has been reactivated from a package to increase current production of the intended end item appears to be of little concern to major subordinate commands since the IPE is used for the production of the intended end item.

Control of Loans from Mobilization Reserve Packages

The DIPEC SP-6 ASD Status Report is used by the AMC major subordinate commands to review changes in IPE status (i.e., reactivation, intransit, in reserve, deleted) and compare these changes with command records. (However, because of the earlier cut-off date for the SP-6, these comparisons are sometimes difficult to make.) IPE loans are controlled by reviewing the request for loan (Inter/Intra-Departmental Request for Release of Equipment, DD Form 770/770-1) to determine whether the requester's need is urgent. The DD Form 770/770-1 is sent to FEQUA who monitors the return of IPE. According to AR 700-90 (Ref 11, para 5-5m), loaned IPE should be replaced or returned within 1 year and reactivations limited to 2 years (Ref 11, para 5-5k).

Evaluation of Current System

The criticisms of the Army's recertification of mobilization reserve package and its lending of IPE affect both the major subordinate commands and HQ AMC. These management levels are actively involved in the review and approval of recertifications and loans. With respect to these problem

areas, both HQ AMC and the headquarters of the major subordinate command have a means for exerting preventive controls to assure that the problems do not recur or are minimized. However, the auditing agencies have shown that the problems persist, indicating that management controls have been ineffective.

HQ AMC lacks an effective control system to prevent these deficiencies from recurring. The major subordinate command is expected to control IFE management problem areas with minimal feedback to HQ AMC. The latter relies most heavily on audits to ascertain how effectively the major subordinate commands have been controlling IFE management problem areas.

AR 700-90¹¹ requires that major subordinate commands establish controls and program reviews to ensure the proper management of mobilization reserve packages. This includes screening of DIPEC to fill mobilization reserve package voids and to replace unserviceables, reporting of excesses to DIPEC, ensuring that condition codes are accurately determined and recorded, the laying away of IFE that is mechanically capable of performing its required operation, keeping mobilization reserve packages intact (unless HQ AMC approves exceptions), and having loans replaced within 1 year. Without an adequate control system major subordinate commands lack the ability to recognize and correct deficiencies in these management areas. There is no system available for comprehensive management of mobilization reserve packages nor is there a requirement for analyzing the integrity of the package or its manufacturing efficiency.

If the past continues to reflect the future, the Army can be assured that the auditing agencies will continue to identify management deficiencies in the areas noted above unless the major subordinate commanders adopt a control system for identifying and correcting deficiencies before they are surfaced by the auditing agencies.

CURRENT ATR FORCE AND NAVY SYSTEMS AND EVALUATION

Air Force

The Air Force maintains very few mobilization reserve packages. Thus little data can be obtained from the Air Force for use in developing an improved Army system for these.

Navy

The Navy does maintain mobilization reserve packages. The responsibility for control of individual mobilization reserve packages is fragmented between system commands and subordinate system's support offices. The Navy Weapons Industrial Support Office (NWISO) acting for the Naval Air System Command and Naval Ordnance System Command prepares all Format A, B, and Cs and manages Navy packages. The Chief of Naval Material (CNM) and Naval Material Industrial Resources Office (NAVMIRO) review these formats prior to their submission to OASD (I&L). Similar to the Army they must annually recertify mobilization reserve packages verifying that the package/line still meets the established retention criteria of DODI 4215.18.¹⁰ At present the Naval Air Systems Command has six mobilization reserve packages. The Naval Ordnance Systems Command (NAVORDSYSCOM) has nine mobilization reserve packages. The Naval Ordnance Systems Command budgets for two analysts who specialize in mobilization reserve packages. They are attached to the Naval Ordnance Support Department (NOISD), Crane, Ind. These two specialists spend several weeks annually at each plant analyzing each of NAVORDSYSCOM's nine mobilization reserve packages. They perform system surveys, review the DIPEC SP-6 ASD Status Report, NOISD, and plant records, and recommend IPE excessing and repair. These plants send a duplicate copy of the original and changed DD Form 1342 (DOD Property Record) to NOISD. NOISD specialists compare a computer printout of NOISD DD Form 1342s with the DIPEC SP-6 report and an inspection sample of IPE during plant visits.

Evaluation

The above suggests that AMC major subordinate commands might consider funding for participants of an inspection group either located at the major subordinate command or PEQUA. Members of this group would periodically visit plants having Army mobilization reserve packages, review inventory and loans, and aid in the preparation of data for mobilization reserve package recertification.

PROPOSED SYSTEM CHANGES

A system for improving management of mobilization reserve packages was developed. The system, which addresses the three problem areas for which the Army has been criticized, provides data for the comprehensive review of mobilization reserve packages. Four reports are used in this system.

The first report is the existing Format B recertification required by OASD.

The second report, Mobilization Reserve Package Management Data, is a new report that has been developed by RAO for management control purposes at the major subordinate command and HQ AMC levels.

The third report is the existing DIPEC SP-6 report, which has been modified to include management control data.

The fourth report is the existing DIPEC Form 162 Industrial Plant Equipment Inventory Record, which has been modified to verify the location, status, and condition of IPE.

Under the proposed system (Fig. 11, Col c) the holding activity, i.e., the plant or installation, would receive the DIPEC Form 162 and verify the location, status, and condition code for each item of IPE on that form. The form would then be forwarded to the major subordinate command, which should already be in receipt of the DIPEC SP-6 form. (The major subordinate command may wish to direct the DIPEC SP-6 form to the holding activity for completion and/or as an aid in completing the DIPEC Form 162. In this event both DIPEC forms when completed would be forwarded to the major subordinate command.)

The major subordinate command would then prepare to complete the new form, Mobilization Reserve Package Management Data (Fig. 12). The Mobilization Reserve Management Data report is divided into five sections: (a) Identification Data, (b) Industrial Preparedness Requirements Analysis (c) Inventory Data, (d) Mobilization Reserve Package Condition and Maintenance Cost Data, and (e) Certification.

The planned producer, his location, and the expiration date of the DD Form 1519 (Prime Contract Schedule) production agreement are identified in order to reduce or eliminate criticisms that contractor or government plants are not reserved for the mobilization package and that there are

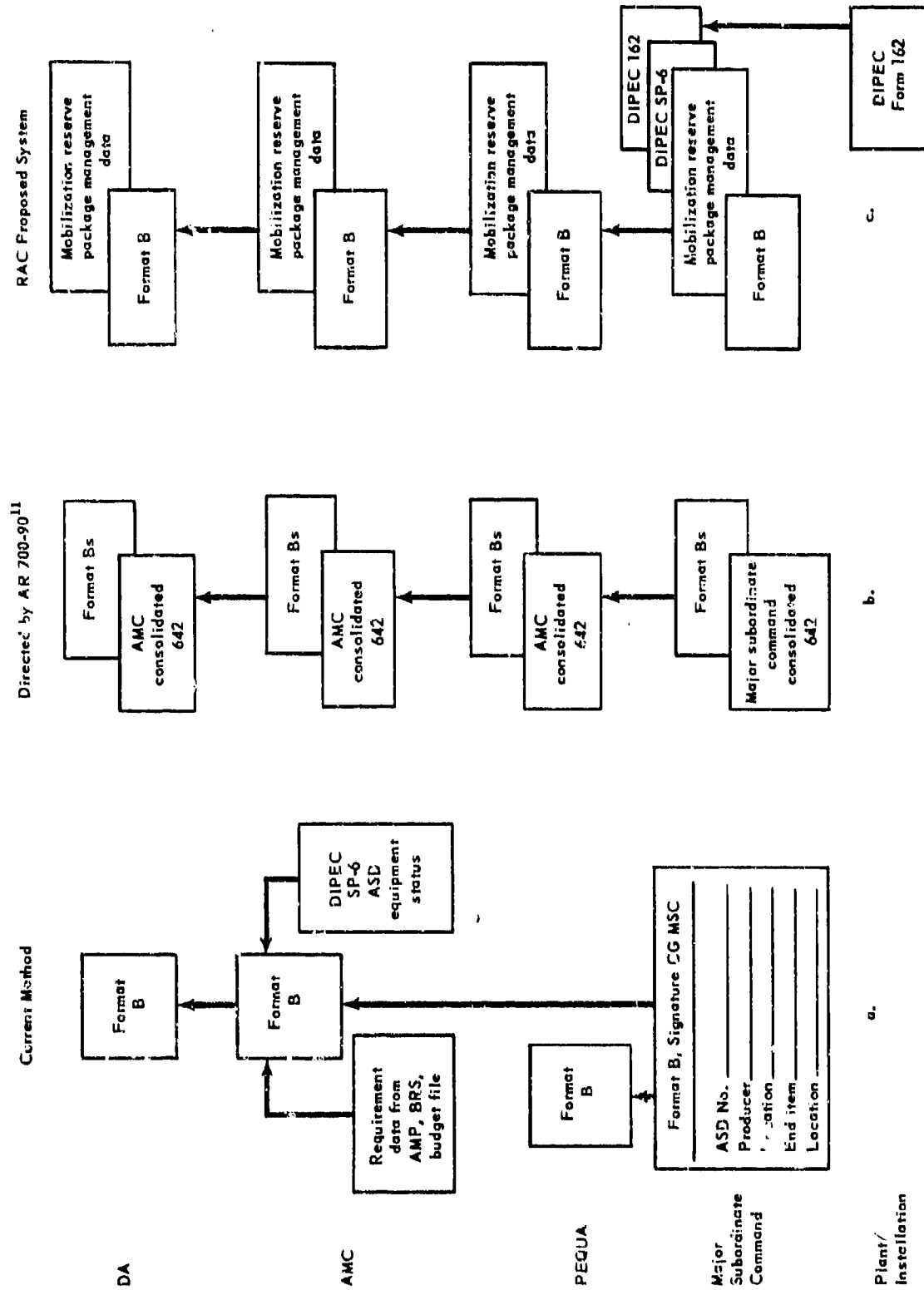


Fig. 11—Comparison of Data Flows for Mobilization Reserve Package Recertification and Management—
Current System Compared with System under Implementation and with RAC Proposed System

excessive delays in negotiating production agreements. The Industrial Preparedness Requirements Analysis section of the report provides mobilization requirements and production capability data to review and approve or disapprove the need for the mobilization reserve package to meet prescribed mobilization requirements. It can be used to reduce or eliminate the criticism that mobilization reserve package IPE is being retained with no identifiable mobilization requirement.

The Inventory Data section of the report provides a means to control deficient management of the mobilization reserve package inventory. Verification of or a notation of differences between DIPEC and Army reported values for IPE quantities and acquisition cost are shown for reported IPE on-hand, loans/leases, shortages and requisitions pending fill at DIPEC. A summary of annual transactions (additions, deletions, loans/leases) is provided to show the changes to the mobilization reserve package during the year. Aside from the dollar value of the other equipment, the form provides the user with the total value of the mobilization reserve package.

The fourth section of the report provides the user with an indication of the condition of the IPE, maintenance performed, and maintenance costs. The funds available as well as expenditures and cost backlog for equipment and real property maintenance is provided for management review. A remarks portion is provided to permit expansion of particular points. Space is provided for a statement by PEQUA of the overall manufacturing efficiency of the mobilization reserve package.

The fifth and final section relates to certification that a review has been made of the package and that the data shown are accurate.

The major subordinate command should already have received some data from DIPEC for insertion on the new form. Figure 13 describes the sources of the information needed for completing this new form. D signifies that DIPEC is the source, and A signifies the Army as the source. After completing the new form and the Format B, the major subordinate command forwards these two forms to PEQUA for evaluation of their completeness and integrity, and from PEQUA they are forwarded to HQ AMC. Following review and approval at this level the forms are then forwarded to DCSLOG. The detailed system flow for development of the Mobilization Reserve Package Management Data form is shown in Fig. 14.

SECTION A: IDENTIFICATION DATA			SECTION B: INDUSTRIAL PREPARED- NESS REQUIREMENT ANALYSIS				Monthly Prod. Rate			
ASD Number _____	(Data Bank)	D	Mobilization Requirement Production Capability a. This ASD b. Other ASDs c. 1319s without ASDs d. Industry Capability Difference from Mobilization Requirement				A (1446) A (1446-7) A (1446-7) A (1446-7) A (1446-7)			
Date Last Recertified by MSC _____	(Format B)	A								
Original OSD Authorization Date _____	(Format A)	A								
Planned Item _____	(1447)	A								
Command Responsible _____	(Data Bank)	D								
Planned Producer _____	(Data Bank)	D								
Plant Location _____	(Data Bank)	D								
Date Planned 1519/Contract Expires _____	(1446)	A								
Other ASDs _____	(1446)	A								
Reactivation Time _____	(Format A Suppl.)	A								
Date of Last Inventory _____	(Plant Inv. Rec.)	A								
SECTION C: INVENTORY DATA			Army Difference		Current FY		FY-1		FY-2	
			Qty.	Acq. Cost	Qty.	Acq. Cost	Qty.	Acq. Cost	Qty.	Acq. Cost
Government-Owned IPE Required					A (P-17 or equivalent)					
a. As reported to DIPEC (on hand)					D (Data Bank)					
b. On Loan					D (Data Bank)					
c. On Lease					D (Data Bank)					
d. Requisitions Pending at DIPEC					D (Data Bank)					
e. Shortage-Investment					A (Computed)					
f. Shortage-Retention					A (Computed)					
Value of Other Equipment and Tooling					A (P-17)					
Total Value of Package					A (P-17)					
Transactions										
a. Additions to ASD					D (Data Bank)					
b. Deletions to ASD					D (Data Bank)					
c. Loan/Lease					D (Data Bank)					
SECTION D: MOBILIZATION RESERVE PACKAGE CONDITION AND MAINTENANCE COST DATA					Current FY		FY-1		FY-2	
% ASD IPE in Usable Condition					A (SP-6)					
Number of IPE Inspected					A (162)					
Number of IPE Requiring Testing					A (162)					
Number of IPE Requiring Repair					A (162)					
Number of IPE Requiring Replacement					A (162)					
Required Costs (Total)					A (162)					
a. Required Equipment Repair Cost					A (162)					
b. Required Equipment Replacement Cost					A (162)					
c. Required Real Property Maintenance Cost					A (162)					
d. Required Real Property Repair Cost					A (162)					
Funds Available					A OMA Bud. & Prog. Execution Documents					
Expenditures					A OMA Bud. & Prog. Execution Documents					
Cost Backlog					A OMA Bud. & Prog. Execution Documents					
a. Equipment Repair					A OMA Bud. & Prog. Execution Documents					
b. Equipment Replacement					A OMA Bud. & Prog. Execution Documents					
c. Real Property Maintenance					A OMA Bud. & Prog. Execution Documents					
d. Real Property Repair					A OMA Bud. & Prog. Execution Documents					
Remarks:					A OMA Bud. & Prog. Execution Documents					
Statement of overall manufacturing efficiency:					A (PEQUA-RVP)					

SECTION E: CERTIFICATION

I certify that ASD _____ was reviewed on _____ and that the data above are accurate as of _____.

NO.

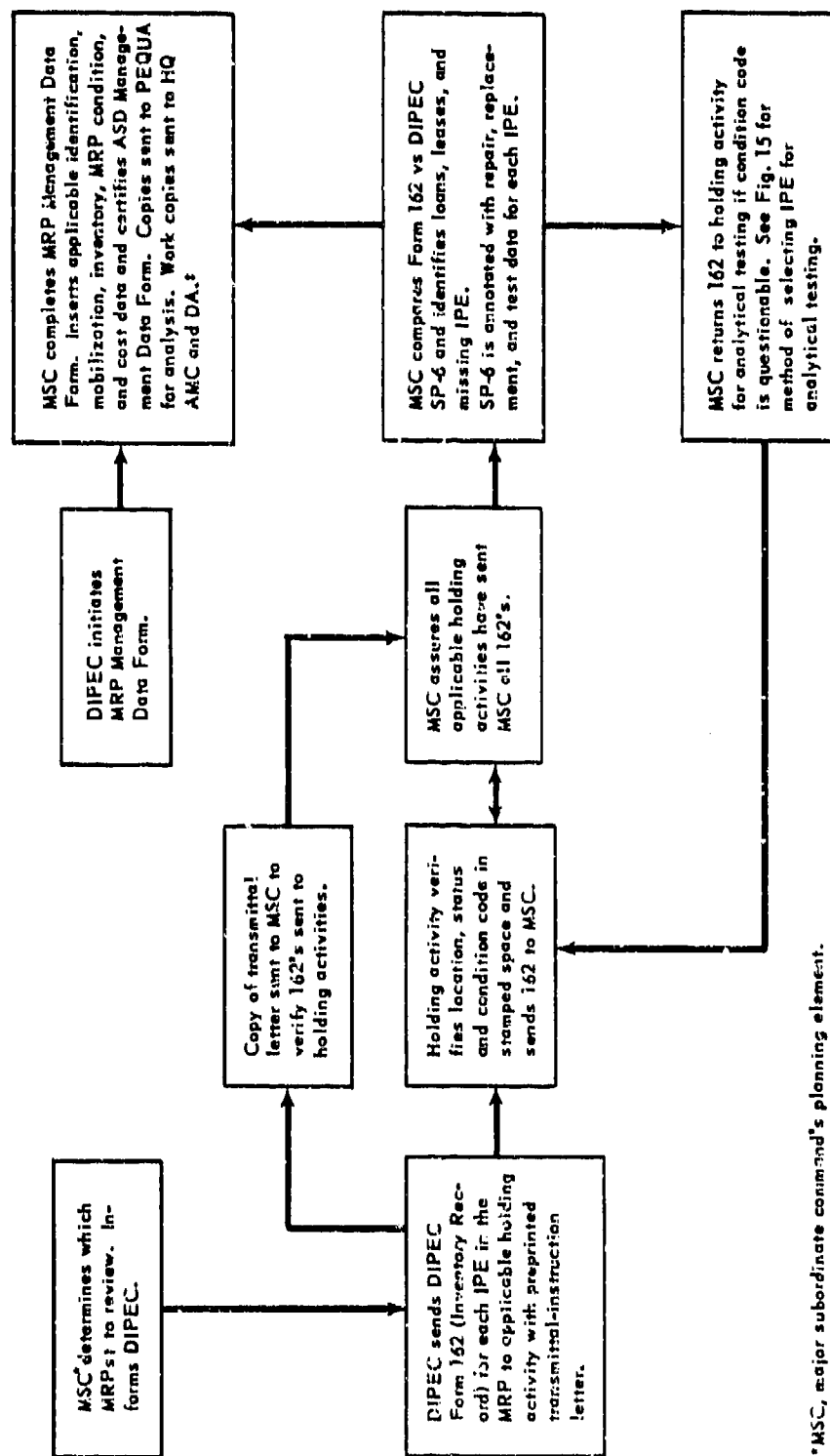
DATE

DATE

C. G. Commodity Command _____ Date _____

Fig. 13—Sources of Data Elements for Mobilization Reserve Package Management Data

(RAC)



*MSC, major subordinate command's planning element.
 †MRP, mobilization reserve package.
 ‡F-15/16/17 or applicable OMA budget request forms submitted for funding to effect actions desired.

Fig. 14—System Flow for Completion of Mobilization Reserve Package Management Data Form

In initially reviewing the DIPEC Form 162 following receipt from the holding activity the major subordinate command may question the condition code of certain of the equipment and be of the opinion that analytical testing is in order. The procedure to be followed in selecting items for analytical testing has been described in a filter system that is depicted in Fig. 15.

The existing Format B remains the same. However, the present DIPEC SP-6, ASD Status Report, Fig. 16, has been modified as shown to provide the planning command's administering officer with space to insert anticipated repair, replacement and test dates, and the cost of required repair, replacement, and/or test for IFE.

The DIPEC DD 162 Form (Industrial Plant Equipment Inventory Record), Fig. 17, has been modified as shown to include a section for verifying IFE location, status, and condition at the plant/facility level. The findings section of this form provides for insertion of the estimated cost for the test, repair, or replacement of the IFE. These cost data are used in completing the Mobilization Reserve Package Management Data report.

SUMMARY

The RAC proposed Mobilization Reserve Package Management Data report integrates data currently contained in a variety of reports, plus new data, into a single comprehensive report for evaluation and control of mobilization reserve packages. In addition, it provides evidence of the integrity and quality of the mobilization reserve package for the meaningful certification of the Format B. The evaluator can determine whether the differences between production capability and mobilization requirements have been accommodated, whether reactivation time is excessive, and whether the inventory data are obsolete. It allows the review of loans/leases, requisitions, shortages, additions, and deletions over 3 years for evaluation of changes in the integrity of the line/package. Expenditures and maintenance backlog are shown in order to evaluate the effectiveness of maintenance. The data elements in the report have been designed so that maximum advantage can be taken of DIPEC's data base and computer capability.

With the exception of the Mobilization Reserve Package Management Data form, the proposed system does not generate new reports, and provides

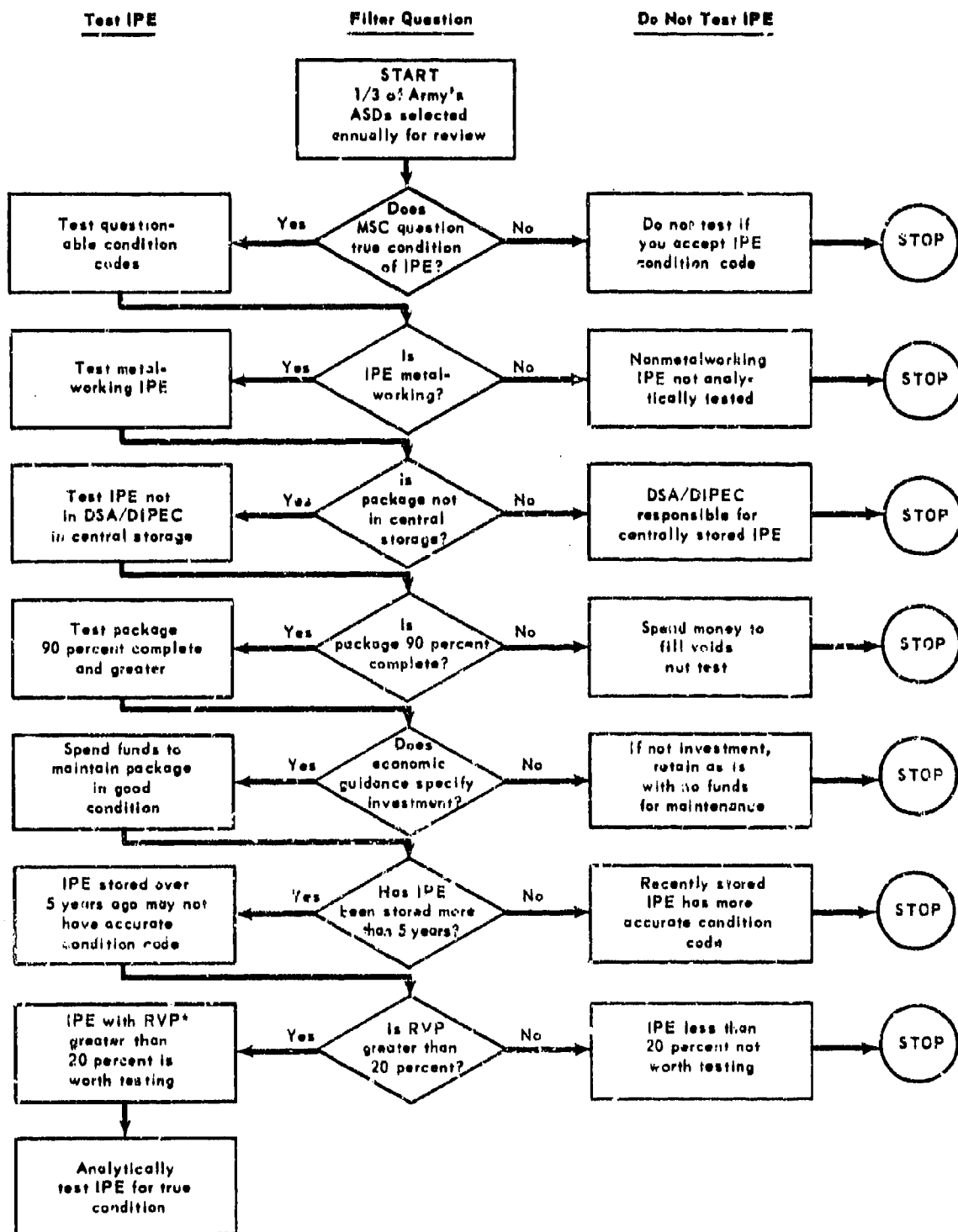


Fig. 15—Filter System for Selecting IPE for Analytical Test for True Condition
*Rutilization value percentage.

[illegible]

I certify that we have reviewed the above mobilization reserve package inventory and that its true condition and maintenance status is that shown above.

Planning Command _____
 Administrative Officer _____
 Date _____

Fig. 16—DIPEC SP-6 ASD Status Report

INDUSTRIAL PLANT EQUIPMENT INVENTORY RECORD

DIPEC	COMMODITY CODE	MFG CODE	TYPE	ID NUMBER	FSN
MFG NAME		POSSESSOR CODE		NAME - PRESENT LOCATION	
PRESENT LOCATION - STREET ADDRESS		PRESENT LOCATION - CITY/STATE		YR MFG	POW SERVICE
MFG SERIAL NUMBER	STATUS	COND	INSP	COMM COND	TAG NUMBER ACQ COST
MFG MODEL NUMBER	CONTRACT NUMBER		ADMIN OFFICE		LENGTH
WIDTH	HEIGHT	SQUARE FEET	WEIGHT	ASD	ARD DATE STATUS CHANGE
DATE LAST ACTION					
DESCRIPTION AND CAPACITY					

DIPEC Form 162

FINDINGS: (Completed at plant/facility level)

Is item at recorded location?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If no, specify location.		
Is item status code correct?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If no, what is correct status code?		
Is item condition code correct?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If no, what is condition code?		
Estimated cost for required test, repair, or replacement		

Fig. 17—Modified DIPEC IPE Inventory Record

for the elimination of the DA Form 642. The current DIPEC SP-6 report has been modified to provide the Army space for annotating repair, replacement, test, and cost data required to restore the mobilization reserve package to desired production capability. The DIPEC 162 IPE Inventory Report has been modified to provide for reconciliation of DIPEC and Army inventory records by providing for verification of IPE location, status, and condition.

Proposed solutions to specific criticisms levied upon the Army's management of mobilization reserve packages are shown in Table 6.

Table 6
SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO
MANAGEMENT OF IPE IN MOBILIZATION RESERVE PACKAGES

Topics addressed	Proposed system changes
<p>a. Inadequate recertification and approval of mobilization reserve packages</p> <p>b. Deficient management of mobilization reserve inventory</p> <p>c. Loaned IPE renders mobilization reserve package incapable of meeting production need</p>	<p>a. (1) Contractor/plant identified</p> <p>(2) Expiration date of DD 1519 shown to reduce or eliminate potential delays</p> <p>b. (1) Mobilization requirement and package production capability identified to determine excess</p> <p>(2) IPE shortage and replacement dates required (for screening remedy see Chap. 3)</p> <p>(3) Repair dates and costs identified for maintenance action</p> <p>(4) Justification required to substantiate differences; action required to bring DIPEC-Army quantities into balance</p> <p>(5) Replacement date identified to reconstitute line/package</p> <p>c. Date of replacement or replacement required</p>

Chapter 3

PROPOSED RESOLUTION OF CRITICISMS RELATING TO FAILURE TO SCREEN DIPEC OR IMPROPER SCREENING OF DIPEC PRIOR TO PROCUREMENT OF IPE

NATURE OF PROBLEMS/CRITICISMS

Not Screening DIPEC and Improper Screening of DIPEC Prior to Procurement-- Army Contractors and Installations

Screening is the process of requisitioning DIPEC for available IPE and obtaining a CNA if the IPE is not available. Requisitioners can initiate procurement after obtaining a CNA. The Army and its contractors have been faulted for not screening DIPEC at all or purchasing IPE before screening actions were initiated or completed (Ref 12, pp 11-15). Auditing agencies have identified instances of not screening that have been related to purchases of hundreds of items of IPE costing several millions of dollars. Two reasons were given for not screening. One was that Army and contractor personnel did not consider the item(s) to be IPE. The second was that procedures were not sufficiently effective to assure that screening was accomplished. The requirement for screening is essential if maximum redistribution and reuse of DOD assets and effective management of procurement funds are to be achieved.

CURRENT SYSTEM AND EVALUATION--ARMY

Contractor Purchase of IPE

The current system for contractor purchase of IPE is illustrated in Fig. 18. Request for funds for contractor acquisition of new IPE are forwarded through channels to the Assistant Secretary of the Army, Installations and Logistics (ASA, I&L) for approval. After approval the type of IPE and funding authorized are cited as part of the contractor's

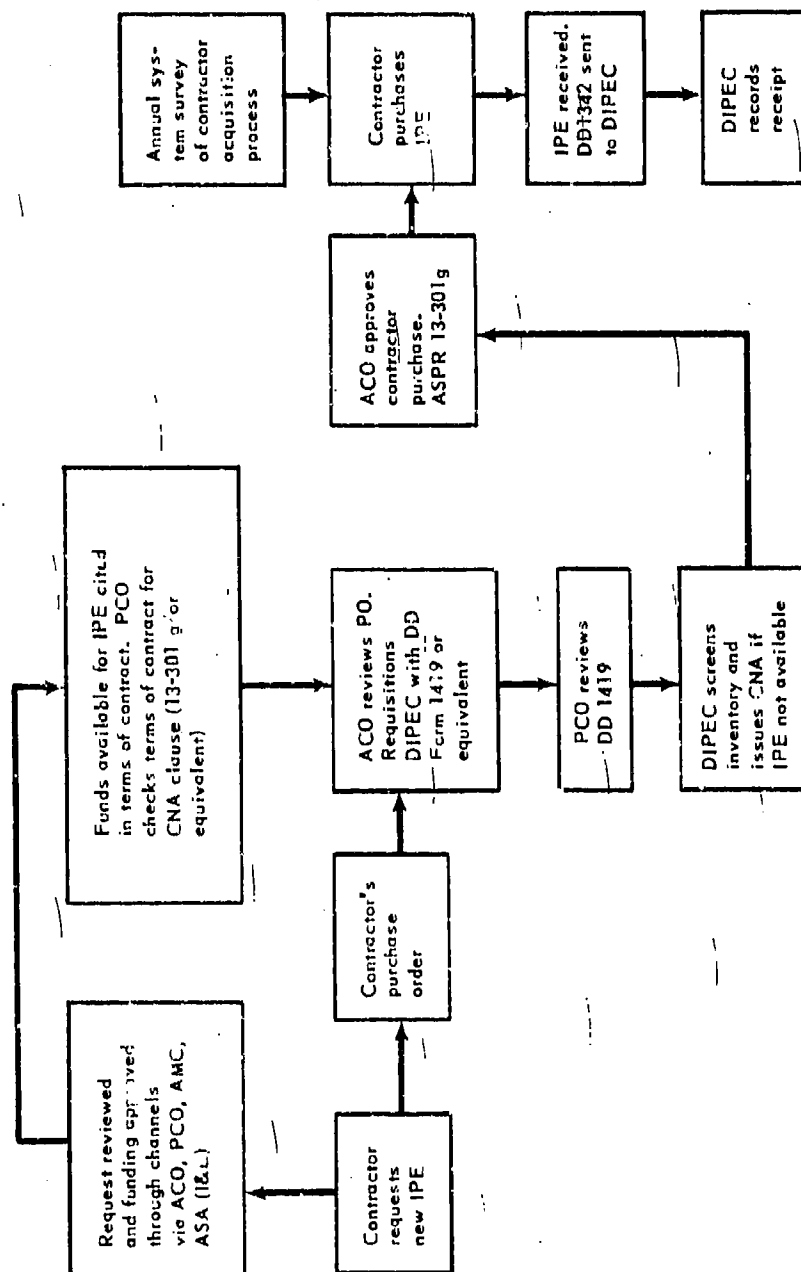


Fig. 18—Contractor Purchase of IPE—Current System

production contract for the end item or component. The PCO at the responsible major subordinate command reviews the contract to determine whether ASPR (Ref 13, Sec 13, para 301g) has been referenced to assure that a CNA is obtained before contractor acquisition of new IPE. This clause places a responsibility on the ACO to ensure that acquisition of the items listed in ASPR (Ref 13, para 312) is not made until a CNA has been received from DIPEC. Defense Supply Agency Manual (Ref 14, para 90102) also requires that a CNA be obtained before procurement. On receipt of the contractor's purchase order for IPE, the ACO prepares a DD Form 1419 to obtain the IPE or CNA from DIPEC. The DD Form 1419 is forwarded to DIPEC through the PCO who reviews the need for the IPE. If the required IPE is not available DIPEC issues a CNA that is valid for 90 days (hereafter referred to as a "valid CNA"). It is received by the ACO who approves the purchase order. On receipt of the item a DD Form 1342 DOD Property Record is sent to DIPEC to acknowledge IPE receipt and location. The DD Form 1342 references the applicable CNA.

Annually a property administrator is required to survey the contractor's property control system in accordance with ASPR (Ref 15, Annex I). One aspect of this survey is an examination of contractor procedures for contractor-acquired property for the Government.

Army Purchase of IPE

Under the current system, Fig. 19, AMC Non-TOE users at arsenals, depots, R&D labs, maintenance shops, etc, send a purchase request to the installation's equipment manager. The installation equipment manager reviews the request for the validity of IPE need, availability or substitutability of the item within the installation, and item authorization under the unit's table of distribution and allowances (TDA). If the item is not authorized under the TDA he obtains authorization through channels from DA for DA controlled items or the HQ AMC, Directorate of I&S for non-DA-controlled items. The authorization and detailed item description are given to the installation's accountable property officer, who prepares a DD Form 1419, DOD Industrial Plant Equipment Requisition, or equivalent (DD Form 1348, letter or TWX request) for the item. The PCO may review the DD Form 1419, or it may be sent directly to DIPEC. DIPEC screens

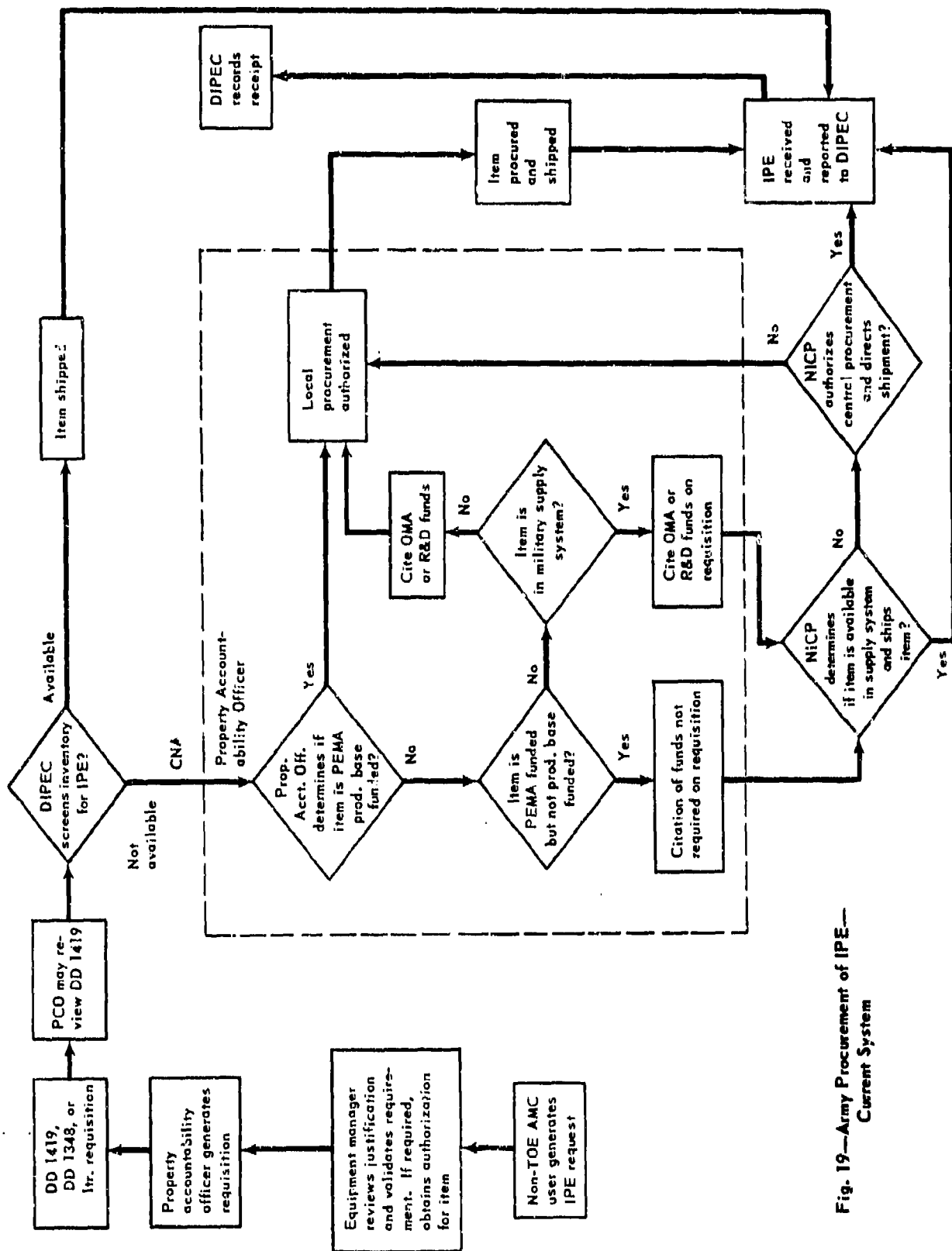


Fig. 19—Army Procurement of IPE—
Current System

its idle inventory. If the item is available, DIPEC issues shipping instructions, and the item is sent to the requesting installation. If the item is not available, DIPEC issues a CNA (DD Form 1419, Section V). Procurement must be initiated within 90 days of the date of the CNA. On receipt of the CNA the accountable property officer initiates action to obtain the item. He determines whether the item is funded from PEMA production-base funds. If it is he provides local procurement with detailed technical data (e.g., specifications) for item procurement. If it is PEMA funded but not production-base funded, he requisitions the National Inventory Control Point (NICP). If it is not PEMA funded he determines if it is supplied within the military supply system. If it is not he will obtain the item from local procurement, citing operation and maintenance, Army (OMA) or R&D funds. If it is in the military supply system he will requisition the NICP citing either OMA or R&D funds. Items requisitioned from the NICP are requisitioned with a DD Form 1348m exception requisition. The CNA may be attached to the exception requisition. On receipt of the item the CNA and date are entered on a DD Form 1342, DOD Industrial Plant Equipment Property Record and submitted to DIPEC.

Evaluation

Defects in the Contractor System. The present method for assuring screening of DIPEC in the contractor system is deficient for the following reasons:

- (1) The ACO can approve a contractor's purchase orders without a CNA due to oversight or unfamiliarity with IPE identification or regulations.
- (2) The contractor is not held responsible for obtaining a CNA before procurement of IPE and may not be aware that the type of equipment he is procuring requires that the ACO obtain a CNA.
- (3) The annual system survey does not specifically require that the property administrator inspect to assure the CNAs have been obtained prior to procurement.
- (4) DIPEC does not provide the PCO or ACO with the names of contractors who purchase IPE without CNAs. Therefore, neither the Army nor the ACO can take preventive measures to correct, reduce, or eliminate this deficiency.

(5) HQ AMC is not aware of contractor violations until the violations have been publicized by the auditing agencies. Therefore HQ AMC or the PCO cannot take corrective action.

Defects in the Army System. The current method for assuring screening of DIPEC in the Army system is deficient for the following reasons:

(1) The accountable property officer may fail to screen DIPEC because of unfamiliarity with regulation or IPE identification.

(2) The NICP item manager is not required to assure that a CNA has been obtained for the item, nor is he responsible for obtaining a CNA.

(3) NICP or local procurement activities are not responsible for rejecting procurement requests without a CNA.

(4) The Command Supply Discipline Program's (CSDP) checklist (Ref 16, Chapter 2, Sec II) does not require examination of the requisitioning process for CNAs. Thus requisitions can be generated without a CNA.

(5) DIPEC does not provide the Army with the names of installations who submit DD Form 1342s for new IPE without CNAs. Thus HQ AMC is not aware of violations of regulations until the auditing agencies have identified the violations. Therefore HQ AMC cannot take preventive actions to reduce or eliminate this infraction of regulations.

CURRENT AIR FORCE/NAVY SYSTEMS AND EVALUATION

The "DSA Manual" (Ref 14, paras 20201, 90102) requires that all services requisition DIPEC for IPE availability and obtain a CNA prior to purchase of IPE. ASPR (Ref 13, para 301g) further requires that a CNA be obtained prior to the procurement of IPE by contractors.

Air Force System for Controlling CNAs

If an Air Force contractor requests new IPE, the Air Force element responsible for the end item procurement determines whether the contractor is entitled to the IPE. If he is, the contracting element permits the contractor to buy the IPE for the account of the Government. Occasionally, a program manager may determine that the item is a military supply item and procurement is made by the cognizant ICP.

AMAs purchase IPE for military-industrial use regardless of whether the item is a federally stock numbered item or managed under a locally

assigned stock number. Military user needs are purchased by the cognizant AMA. R&D activity requirements are procured by the local bases.

Navy Systems for Controlling CNAs

Navy contractor requirements for IPE are procured by the Naval Air Engineering Office (NAEO) Philadelphia, Pa., and the Navy Purchasing Office (NPO), Washington, D. C. Contractor R&D requirements for IPE are procured directly by the R&D contractor.

Purchases of IPE for noncontractor use of \$2500 or more are made by area Navy Purchasing Offices. If the IPE costs \$2500 or more and is a military supply item the item is purchased by the cognizant ICP. Purchase of IPE costing less the \$2500 is accomplished through local procurement. The Naval Comptroller's Manual (Ref 17, para 036403) exempts IPE required for installation on new ships under construction and equipment that is specialized for the exclusive use aboard ships, but requires that a CNA be obtained prior to the initiation of other purchase actions for IPE.

Within the broad framework outlined above, the Navy relies on the individual system commands within the Naval Material Command (NAVMATCOM) to develop and implement their own procedures for requisition processing and procurement. Procedures of three of NAVMATCOM's systems commands are described below.

Naval Air Systems Command (NAVAIRSYSCOM) installations, i.e., principally the Naval Air Rework Facilities (NARFs), screen DIPEC with a DD Form 1419 requisition, or equivalent, for available IPE. Equipment offered by DIPEC is inspected by the NARFs. Acceptances or rejections are reviewed by HQ NAVAIRSYSCOM, Assistant Commander for Logistics/Fleet Support Shore Installations Division who may override NARF acceptances or rejections, and forwards notices of IPE acceptance or rejection to DIPEC. CNAs issued by DIPEC are sent directly to the NARFs. Equipment costing less than \$2500 is procured by Base Supply. Equipment costing \$2500 or more is procured by the regional Navy purchasing office with direct shipment of the item to the NARF.

Naval Ship Systems Command (NAVSHIPSYSCOM) field installations, principally the shipyards, prepare a DD Form 1419 requisition, which is sent to the Deputy Director for Shipyards Modernization/Director for Navy Facilities

and Equipment, Technical Director, Plant Equipment Management Division. This division prepares shipping data and obtains funding. The citation of funding is made by the Financial and Budget Management Staff on the DD Form 1419 who screen DIPEC for item availability. DIPEC offers of IPE are reviewed by the Plant Equipment Management Division. CNAs are sent to the Plant Equipment Support Office, Annapolis, Md., for centralized screening of or preparation of equipment specifications preparatory to procurement of IPE.

Within the Naval Ordnance Systems Command (NAVORDSYSCOM), contractor requisitions for IPE are sent to HQ NAVORDSYSCOM for approval and subsequent screening through DIPEC. DIPEC's CNAs are sent to the Naval Ordnance Industrial Systems Division (NOISD), Crane, Ind. IPE costing \$2500 or more are procured by NOISD and direct shipped to the requester. IPE under \$2500 are procured locally. IPE requisitions from USGOs and field installations are sent directly to NOISD for processing. IPE procured without requisitioning DIPEC are identified by NOISD personnel during annual plant surveys when DIPEC-controlled items (i.e., accounted for by a DD Form 1342, IPE Property Record) are matched against a transaction register for all IPE. When a mismatch of the plants' transaction register and IPE inventory records occur, the source of acquisition for the item is questioned. By use of the \$2500 limit for local or central purchasing and use of the survey team the NAVORDSYSCOM utilizes a concept of centralized control rather than centralized procurement of IPE.

Evaluation

The Navy's system may be characterized by the following. It fragments responsibility for IPE acquisition among its systems commands each of which appears to have a different procedure. Contractor requests for IPE are generally sent to the Naval system command headquarters for approval. Centralized procurement of IPE for internal Navy utilization is applicable where item acquisition cost is in excess of \$2500.

The Army also delegates authority for IPE, to its commodity commands, the equivalent of the Navy's systems commands.

Both Army and Navy make use of their ICPs for procurement of IPE items that are part of the supply system. The Army uses the ACO to approve

the contractor's proposed purchase of IPE to determine whether it is contractually authorized rather than use headquarters elements. The ACO obtains the CNA from DIPEC. The Army's major subordinate command (PCO and industrial equipment specialists) reviews the DD 1419 requisition for the IPE. However, the Army does not use a \$2500 criterion to determine local or centralized purchase. Type of funding (e.g., FEMA Production Base Support Program funds) and economy of purchase (volume or geography) are the criteria for the Army's use of local purchase.

PROPOSED SYSTEM CHANGES

Improvements for the control of contractor purchase of IPE are suggested for implementation at the contractor, property administration, major subordinate command, and HQ AMC levels. For Army purchase of IPE, controls are suggested at the installation equipment manager, NICP item manager, procurement office, major subordinate command, and HQ AMC levels.

Proposed System Changes for Contractor Purchase of IPE

The proposed system changes for control of contractor purchase of IPE without first requisitioning DIPEC and obtaining a CNA is shown in Fig. 20. The study team proposes four changes. They are indicated in the heavily outlined boxes in the figure. The boxes signifying changes have been numbered to agree with the sequence in which they are discussed below.

ASFR (Ref 14, para 301g) currently provides the only existing control, the areas outlined by the dotted line, in which the ACO obtains a CNA. However, this provision of ASFR has been violated in the past with no assurance that it will not be violated in the future. Specific elements being proposed for change have been underlined.

The first proposed control is an expansion of ASFR, Apps B and C, "Control of Government Property in Possession of Contractors," and "Control of Government Property in Possession of Nonprofit Research and Development Contractors."¹⁸ These appendixes set forth requirements to be observed by contractors in establishing and maintaining control over property provided them by the Government. There is at present no requirement for a contractor to obtain a CNA prior to the purchase of IPE. Sections B-

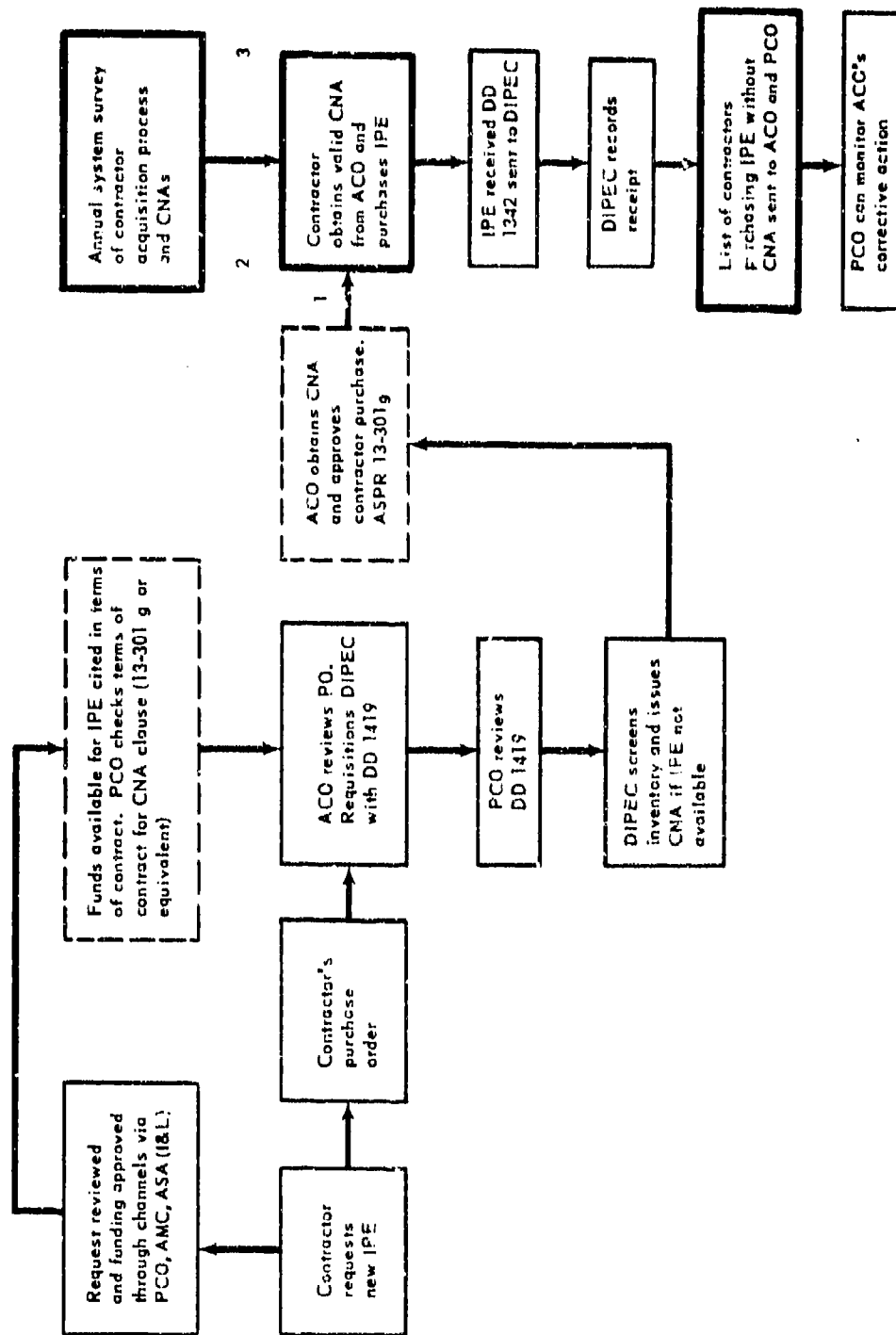


Fig. 20—Proposed Control System for Contractor Purchase of IPE

— Present control
 — Additional control points being proposed

and C-306, "Records of Plant Equipment," should be expanded to include the following:

Prior to the purchase of IPE listed in 13-312 by the contractor, the contractor must obtain authorization to purchase from the ACO. This authorization must include citation of a CNA number with a valid date, i.e., a date less than 90 days old at the time procurement action is initiated.

The second suggestion concerns the expansion of ASPR Sup 3, Annex I, System Survey, Category 3, Records.¹⁵ There is no provision for the examination of CNAs. The Functional Area "Receipt and Issue File" should be expanded to include:

"CNA has been obtained before purchase of IPE"

A third and related suggestion is to have major subordinate commands instruct Army ACO's at Army contractor plants to require a 100 percent inspection of all production equipment procurements over \$25,000 rather than use the sampling technique specified under ASPR Supplement 3. The additional number of items inspected will be small but should account for the bulk of the dollar value of newly procured IPE. The 100 percent sample should be inspected not only for the presence of a valid CNA having been obtained before procurement, but to determine whether equipment costing \$25,000 or more has been identified as IPE.

The fourth suggestion requires that DIPEC edit DD Form 1342 DOD Property Record, data element 22 for the omission or presence of an invalid CNA for newly purchased and reported IPE. A quarterly report of contractors who purchase without a CNA should be sent to the PCO at the major subordinate command and ACO. The ACO would take corrective action as required. This report should contain the purchasing contractor, administering office, IPE identification, location, major subordinate command, and an indication of whether a CNA omission or invalid date or the wrong CNA number is involved. DSAM 4215.1, para 90101,¹⁵ should expand DIPEC's responsibilities to prepare this report. The PCO would use this report as evidence of poor administration at the ACO level since the ACO is required to obtain a CNA before contractor purchase of IPE.

Proposed System Changes for Army Purchase of IPE

Proposed system changes for the control of Army procurement of IPE

are shown in Fig. 21. This figure is essentially the same as that illustrated in the current system Fig. 19 with modifications for recommended improvements noted in the heavily outlined boxes. These boxes have been numbered to conform to the sequence in which they are discussed below.

The first suggestion is the expansion of the installation equipment manager's functions under AMCR 700-64, Equipment Management Program (Ref 19, para 5-f), to ensure that DIPEC is screened for available IPE assets and that a valid CNA is obtained prior to initiating local procurement or requisitioning the NICP for supply or procurement. The installation equipment manager must assure that a CNA with an unexpired CNA date is attached to the DD Form 1348 exception requisition issued to the NICP or the procurement request sent to the installation procurement element. AMCR 700-64 (Ref 19, para 5-f), should also cite Apps 1A, B, and C of AR 700-43¹⁴ for the identification of IPE.

The second recommendation requires that the NICP item manager reject and return IPE requisitions lacking a valid CNA attached or CNA citation. AR 725-50 (Ref 20, para 3-30) should be modified to include the rejection and return of IPE requisitions without a valid CNA or CNA date. Appendixes 1 A, B, and C of AR 700-43¹⁴ should be referenced for IPE identification. A directive can be used for effecting temporary implementation.

The third suggestion requires that AR 711-16, "DSU Installation Stock Control and Supply Procedures," Chap. 8, para 8-3, "Local Purchase,"²¹ be changed to include the rejection and return of IPE purchase requests without a CNA with unexpired date. Appendixes 1 A, B, and C of AR 700-43¹⁴ should also be referenced for identification of IPE.

The fourth suggestion provides for DIPEC editing of data element 22 of the DD Form 1342, DOD Property Record. The editing would determine the omission, or citation, of an invalid CNA (number or expired date). DIPEC would incorporate the results of this editing into a quarterly report of AMC activities that procure without valid CNAs. Negative reporting would be included. This report would be sent to HQ AMC and the applicable major subordinate commands to alert them of violators. The report would contain the IPE identification, location, major subordinate command, CNA omission or invalid CNA number or date. HQ AMC and/or the major

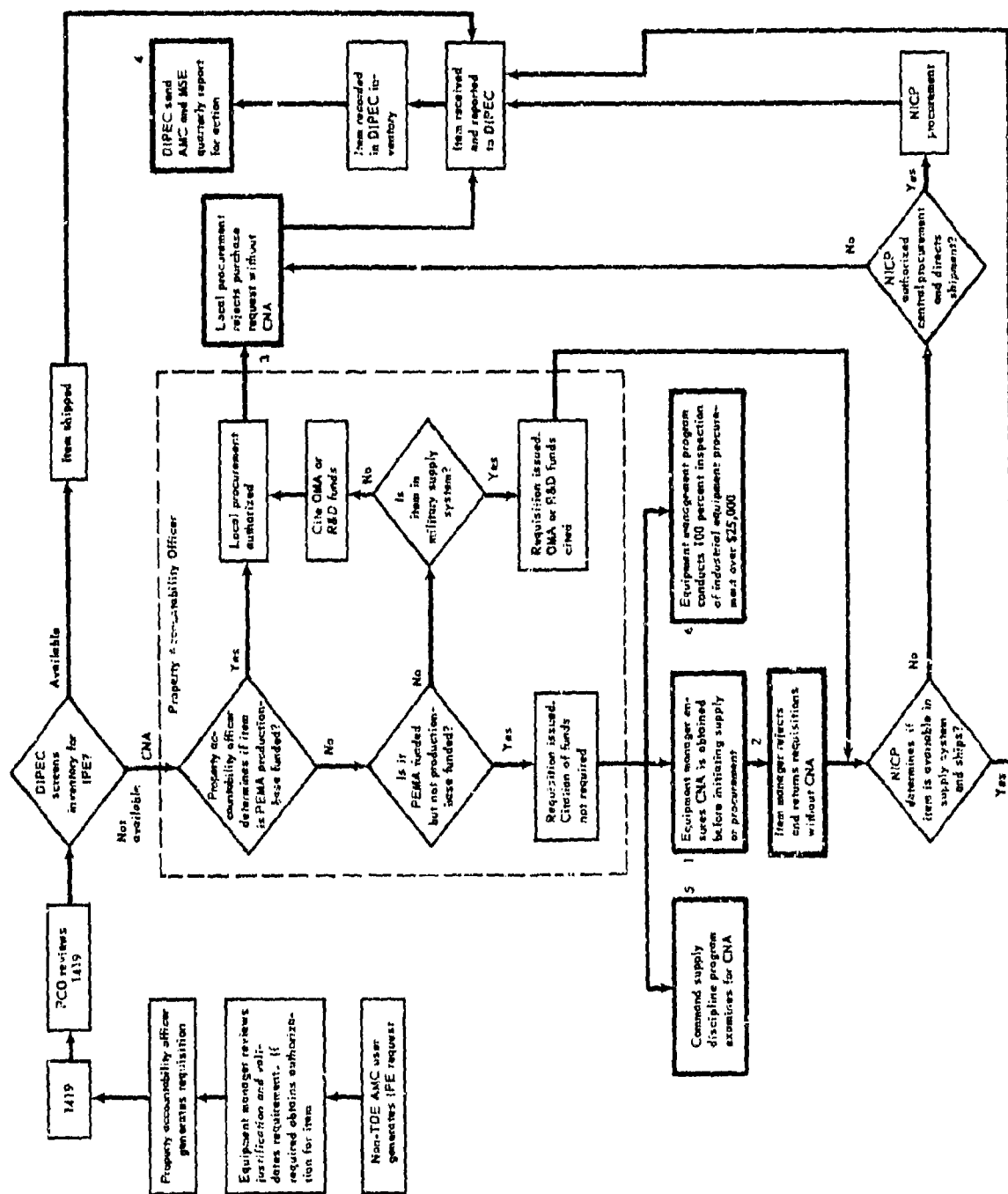


Fig. 21—Proposed System for Control of Army Procurement of IPE

subordinate command would contact these activities for justification of the violation and an indication of what measures have been taken to correct the deficiency as well as to prevent its recurrence.

The fifth suggestion concerns the expansion of the Command Supply Discipline Program, Chap. 2, Sec 2, AR 710-1.¹⁶ This program has a checklist for examining the command's supply system. It is suggested that requisitions for IPE, as identified in Apps 1A, B, and C of AR 700-43, be examined for validity of the CNA date, i.e., less than 90 days old.

A sixth suggestion is to expand the Command Equipment Management Program Review, AMCR 700-xx,²² to require a 100 percent inspection of all industrial equipment procured for \$25,000 or more. This inspection will cover determination of proper IPE identification and obtaining an unexpired CNA prior to procurement.

SUMMARY

The Army and its contractors have been repeatedly criticized for procurement of IPE without screening DIPEC and obtaining a CNA. This type violation of ASFR is easily detected by the auditing agencies and is considered by them to be serious. They note that it not only affects DIPEC's mission of intra- and inter-service reutilization of IPE, but costs the Government millions of dollars for the needless procurement of IPE already available. A series of checks and balances have been proposed by the study group to eliminate or reduce contractor and Army purchase of IPE without a valid CNA. In the contractor area the contractor, property administrator, ACO, and PCO have been given additional responsibility for controlling the acquisition of IPE without a CNA. To reduce Army violations in this area, additional responsibilities have been given to the installation equipment manager, NIOP item manager, procurement activities, and HQ AMC. These responsibilities will aid the Army and contractors in identifying IPE prior to procurement and improve the requisitioning supply and procurement process for IPE. A summary of the proposed changes is shown in Table 7.

Table 7

SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO FAILURE TO SCREEN DIPEC
OR IMPROPER SCREENING OF DIPEC PRIOR TO PROCUREMENT OF IPE

Topics addressed	Proposed system changes
a. Contractor purchase of IPE without a CNA	<p>a. (1) The contractor must obtain a CNA from the ACO before procurement</p> <p>(2) The property administrator must inspect the acquisition process for a CNA prior to procurement</p> <p>(3) DIPEC will send a quarterly report of violators to the ACO and PCO for effecting corrective action</p> <p>(4) Army ACOs will conduct a 100 percent inspection of recently acquired IPE costing \$25,000 or more for proper IPE identification and presence of a CNA</p>
b. Army purchase of IPE without a CNA	<p>b. (1) The installation equipment manager must assure receipt of a CNA before requisitioning IPE</p> <p>(2) The NICP item manager will reject requisitions lacking a CNA citation</p> <p>(3) Local procurement activities will reject purchase requests lacking a CNA citation</p> <p>(4) The Command Supply Discipline Program will examine for a CNA</p> <p>(5) DIPEC will send a quarterly report of violators to the PCO and HQ AMC for action</p> <p>(6) The Command Equipment Management Program Review will conduct a 100 percent inspection of recently acquired industrial equipment costing \$25,000 or more for proper IPE identification and CNA citation</p>

Chapter 4
PROPOSED RESOLUTION OF CRITICISMS RELATING
TO PROPERTY ACCOUNTABILITY

NATURE OF PROBLEMS/CRITICISMS

A number of criticisms have been made of the Army that relate directly or indirectly to the concept of property accountability. These criticisms concern property accountability in contractor operations and property accountability in Government-operated facilities. Some specific criticisms are indicated below.

Criticisms Relating to Contractor-Operated Facilities

IPE reported to DIPEC has been both underreported and reported late. Included in this category are transactions relating to initial reporting of IPE receipt, transfer, and disposal.

Deficient practices have been noted in the manner in which inventories of equipment have been conducted. Examples cited in this connection included the individual responsible for maintaining the property accountability records being placed in charge of the conduct of the physical inventorying of equipment, and lack of agreement between the DIPEC inventory for contractor-held equipment and the quantity in his possession (e.g., IPE cannot be located).

Criticisms Relating to Army-Operated Facilities

IPE reported to DIPEC has been underreported and reported late. The transactions in question include IPE receipt, transfer, and disposal. Some reporting has been inaccurate and incomplete. Inaccurate reporting has been characterized by wrong possessor codes (i.e., a code signifying a specific holder of IPE), and inability of an activity to locate IPE for which DIPEC has a record.

CURRENT SYSTEM AND EVALUATION—ARMY

The term "property accountability" refers to the fact that holders of Government property are held accountable for both the number of items in the inventory as well as the dollar value of the inventory. The execution of this accountability revolves primarily around a system of records keeping. The quality of performance for property accountability responsibilities is largely a function of the orderliness and completeness of the records in question, and, most importantly, the degree to which these records accurately reflect the status of the equipment inventory.

Current Contractor System for IPE Receipt, Transfer, and Disposal of IPE

The current system for contractor property accountability for IPE (Fig. 22) begins with the property administrator's approval of the contractor's property control system (Ref 15, para 302.7). If this system is approved the contractor operates within the parameters of the prescribed property control system. If it is not approved the property administrator advises the contractor of system deficiencies and monitors the contractor to assure that the system deficiencies are corrected. The contractor establishes records and accountability for Government-furnished property according to ASPR requirements in effect at the date of the contract (Ref 18, para 301). IPE is also identified according to the applicable sections of the regulations (Ref 18, paras 306, 404). The reporting of IPE, i.e., receipt and acceptance, major changes, IPE no longer required for the purpose provided, and the completion of disposal, is accomplished on DD Form 1342 within 10 days after these events and is forwarded through the property administrator to DIPEC (Ref 18, para 306.1). The contractor retains the original of each DD Form 1342. It may be used as the official property record. The property administrator reviews the DD Form 1342, completes Sec V validating the property record, and forwards it to DIPEC. DIPEC edits the DD Form 1342 for completeness and completes the DD Form 1342 where known data are missing (e.g., model numbers). When DD Form 1342s do not pass the DIPEC completeness edit the DD Form 1342 is returned to the property administrator for additional data. DD Form 1342s that pass the completeness edit are entered into the DIPEC inventory data bank.

When IPE is no longer required for the purpose authorized or provided it must be declared idle. A DD Form 1342 noting its idle status is

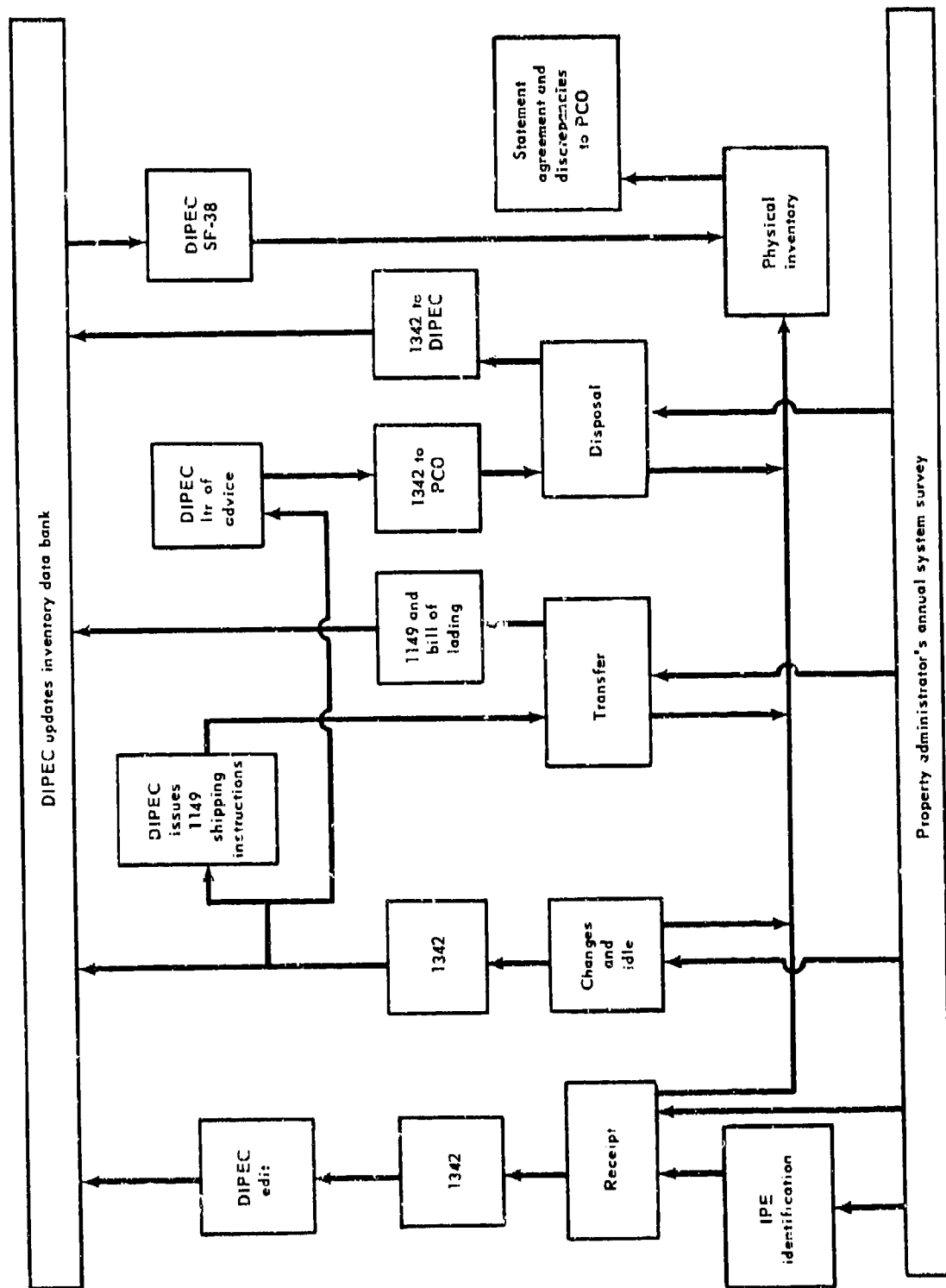


Fig. 22—Contractor Receipt, Transfer, and Disposal—Current System

prepared by the contractor and forwarded to DIPEC through the property administrator. DIPEC screens its requisition file for requisitions for the IPE. If a requisition exists for the IPE, DIPEC issues a DD Form 1149, "Requisition and Invoice/Shipping Document," for shipment by the holding contractor to the requisitioner. Within 2 days after accomplishment of shipment the DD Form 1149 should be completed, the bill of lading number referenced, and the DD Form 1149 forwarded to DIPEC.

When disposition of idle equipment is other than shipment to a requisitioner or storage DIPEC provides the plant clearance officer with disposition advice by letter (Ref 14, para 20601). The plant clearance officer establishes an automatic release date of 75 days with the 90th day as the screening completion date. During this period the Army has the first 30 days priority for the IPE. Screening for Federal agencies (non-DOD) by GSA occurs between 31 and 75 days. Between 76 and 90 days the Department of Health, Education and Welfare (HEW) screens to fill non-Federal requests for the IPE. Where other agencies have a request HEW simultaneously issues a shipping notice to DIPEC and to the plant clearance officer who ships the item to the agency. If the plant clearance officer is not notified by DIPEC, General Services Administration (GSA), or HEW within 90 days he initiates disposal action, i.e., sale. After the sale is completed the contractor prepares the DD Form 1342 and submits it to DIPEC through the property administrator (Ref 18, para 306.1).

Physical inventory of Government-furnished industrial equipment is required annually. The inventory consists of sighting, tagging or marking, describing, recording, and reporting the property concerned and reconciling the property recorded and reported with the property records (Ref 18, para 501). During the duration of the contract the property administrator evaluates the contractor's receipt, transfer, and disposal of Government-furnished equipment in his annual system survey (Ref 15, para 402).

Current Army System for IPE Receipt, Transfer, and Disposal

The Army's system for IPE receipt, transfer, and disposal is shown in Fig. 23. A regulation (Ref 14, Apps 1A, 1B, and 1C) provides for the identification of IPE and type of IPE not reportable to DIPEC (Ref 14, para 20102.3). Requirements for reporting initial receipt—30 days

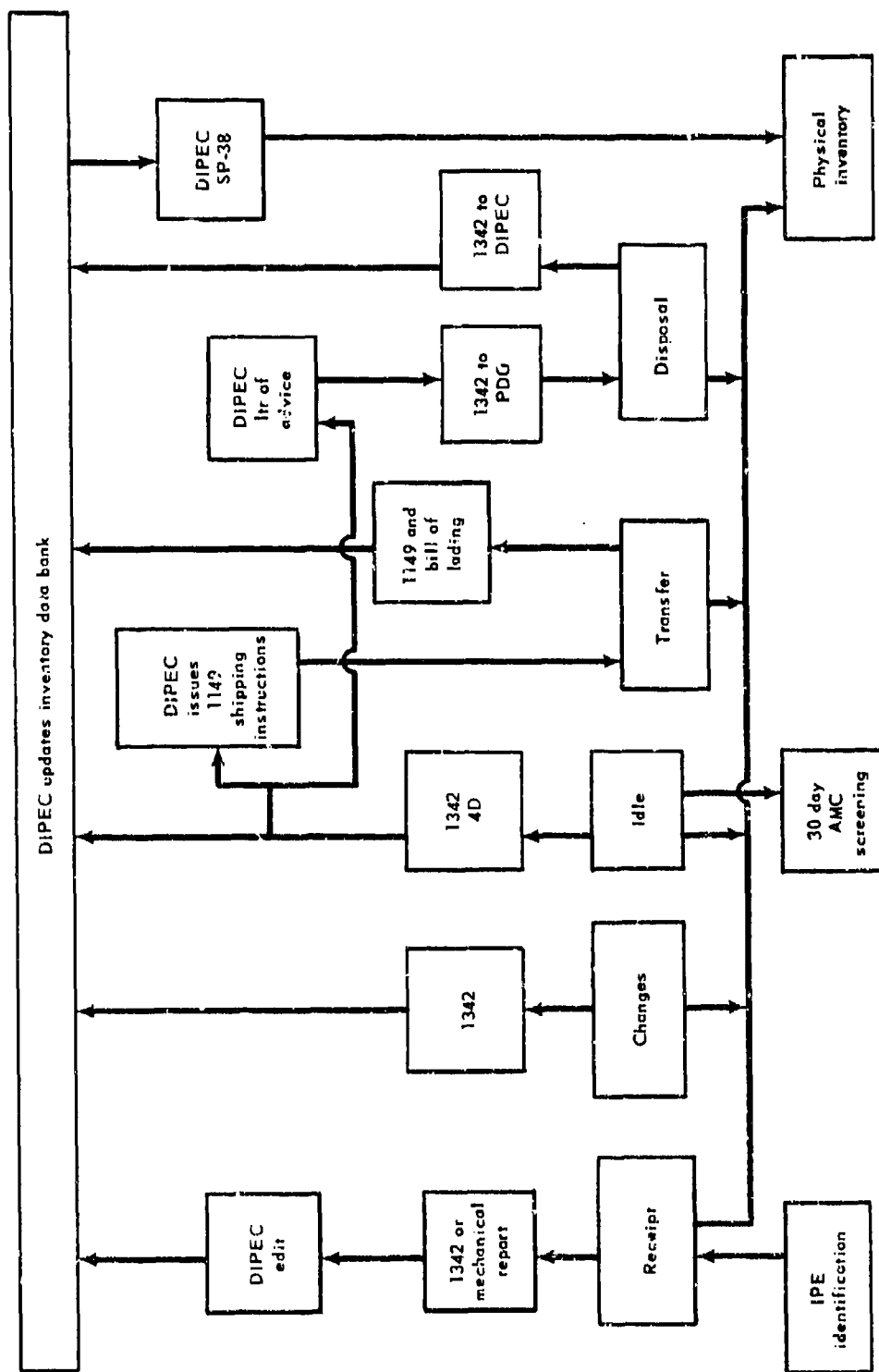


Fig. 23—Army Receipt, Transfer, and Disposal—Current System

(Ref 14, para 20201), idle declaration—10 days (Ref 14, para 20501), transfer—2 days (Ref 14, App 26), and disposal are specified in the regulation. The defense disposal manual²³ is used for equipment disposal. Neither the regulation nor manual, however, specify the time required to report disposal. The functions of AMC installation equipment managers who are responsible for industrial equipment at Army installations are specified in an AMC regulation²⁴. They assure that equipment is properly authorized, inspected, and identified on the property book.

On receipt of newly acquired IPE, a DD Form 1342, DOD Property Record, is forwarded to DIPEC; however, mechanized reporting is also accepted. DIPEC reviews the DD Form 1342 for completeness. Forms with incomplete data are returned to the sender, others are entered into DIPEC's IPE inventory data bank. Changes to IPE (e.g., status, location, ID number, administering office, etc) are reported on the DD Form 1342. A recent change in AMC regulations²⁴ requires that idle IPE be reported on a DD Form 1342 with a 4D status code to assure the Army hold-priority for 30 days. The DD Form 1342 is sent simultaneously to DIPEC and the US Army ISA at Rock Island, Ill. During this time ISA publishes a list of Army idle/excess operating equipment available for redistribution. ISA screens idle/excess IPE against AMC need-to-buy or authorized requirements, coordinates the available items with the requiring major subordinate command/installation, or activity, as applicable, and furnishes shipping instructions to DIPEC within 30 days from the date of the idle/excess report. Prior to effecting intra-Army movement of IPE to distant locations the requesting or directing agency makes inquiry to DIPEC to determine if a suitable or later model is available from DIPEC at a closer location. The purpose of this action is to reduce transportation costs and acquire more modern equipment when available.

DIPEC issues either shipping instructions (DD Form 1149) or a letter with disposition instruction to the Army installations for transfer or disposition of the idle IPE. The administering activity complies with the shipping advice codes shown on the DD Form 1149 and forwards two copies of the completed DD Form 1149 stamped "Notification of Shipment" to DIPEC within 2 days after the equipment is shipped. Essential data such as the bill of lading number and method and date of shipment is included

on the DD Form 1149 (Ref 14, App 2C). DIPEC maintains a computer printout "RCS-026," which lists DD Form 1149s with past-due dates for follow-up on IPE transferred from use to storage. No such list exists for user-to-user transfer of IPE. DIPEC uses the DD Form 1149 to manually follow up on shipments. Priority needs are followed up every 7 days. Nonpriority needs are followed up in 15 days and every 7 days thereafter.

For disposal the installation equipment manager prepares a DA Form 3161, Request for Issue/Turn-In, to turn idle IPE over to the accountable property officer, who in turn gives it to the PDO on receipt of a letter of advice for IPE disposal from DIPEC. Two copies of the DD Form 1342 and one copy of the DIPEC letter with turn-in documents are given to the PDO. Final disposal data are reported by means of the DD Form 1342 by the PDO in accordance with the defense disposal manual.²³ DIPEC develops a semiannual printout (31 March and 30 September) called "SS 18A Status Code J Items 170 Days Beyond ARD" to follow-up on unreported IPE that is 170 days beyond the automatic release date.

The installation equipment manager is responsible for maintaining a complete and current inventory of industrial equipment (Ref 18, paras 5, 6). According to AR 735-35 (Ref 25, paras 2-8), an annual reconciliation between the property book and hand receipts for the IPE is required. AR 711-16 (Ref 21, para 12-1c) requires an annual inventory of installation equipment. The DIPEC report, RCS SP-38, "Army IPE by Administering Office,"²⁶ is sent to administering offices. It could aid in IPE inventory reconciliation.

Evaluation of Current System

Defects in the Contractor System. Deficiencies in the present contractor/DCAS system for IPE property accountability are:

There is a conflict between ASPR and DSAM 4215.1¹⁴ in the timeliness for reporting disposal. ASPR, Apps B and C (Ref 18, para 306.1), requires reporting of disposal by means of the DD Form 1342 within 10 days through the property administrator. DSAM 4215.1 (Ref 14, para 20601.2) requires reporting within 15 days by the plant clearance officer.

The property administrator's annual system survey does not specifically require reviewing the timeliness of IPE receipt, transfer, and disposal reporting.

ASPR does not require IPE specifically to be inventoried.

DIPEC's list of contractor IPE holdings is provided to the ACO only on request. If not requested DIPEC does not furnish this list. The list could be used to reconcile contractor holdings with DIPEC reported holdings since large discrepancies have been reported in auditing agency findings.

No reconciliation is required between DIPEC reported IPE holdings for the contractor and the contractor's actual holdings or property records.

DIPEC does not inform the procuring contracting office of contractor violations in the reporting of IPE receipt, transfer, and disposal.

The plant clearance officer is not responsible for assuring that the notice of transfer (DD Form 1149) or disposal (DD Form 1342) is sent to DIPEC in a timely manner.

Defects in Present Army System. Defects in the Army system are:

No specific office is responsible for assuring conformance to DIPEC reporting requirements for IPE receipt or transfer.

AMCR 755-9²⁴ does not provide for notifying DIPEC of the accomplishment of IPE transfer.

DIPEC does not inform Army installations of nonreporting of IPE receipt.

DIPEC's system for following through on Army reporting IPE receipt, transfer, and disposal has not been effective for preventing violations in these functional activities.

The use of the possessor code in DIPEC's SP-38, "Army Holdings of IPE,"²⁶ does not enable the Army to locate or identify IPE by actual holder.

Neither the DIPEC Manual²⁶ nor the Defense Disposal Manual²³ specifies a time requirement for the reporting of IPE disposal by property disposal officers.

CURRENT AIR FORCE/NAVY SYSTEMS AND EVALUATION

Since all three services are governed by ASPR, the system described in Fig. 23 for Army contractors also applies to the Air Force and Navy.

Air Force

AFM 67-1 (Ref 27, p 18-8) describes the procedure by which the Air Force conforms in part to the reporting requirements of DSAM 4215.1.^{1b} The requisitioning activity at the Base Equipment Management Office (BEMO) is instructed to submit requisitions for IPE to DIPEC only for the relatively small number of IPE that are managed through the military supply system and were turned over to DIPEC in August 1969 for central storage and distribution management. For the bulk of the Air Force's IPE, the BEMO requisitions against the military supply system. The AMA commodity manager effects screening of requisitions, approves distribution, and decides whether to requisition DIPEC if an item is not available.

Similarly, items that are excess at the BEMO level are reported to the AMA commodity manager who is responsible for redistribution decisions. In the event that an item of IPE is excess to Air Force needs, the item is reported to (a) DIPEC if that activity has storage and distribution management responsibility for the item, or (b) the Defense Logistics Support Center if it is an item of IPE over which DIPEC does not have storage and distribution management responsibility.

Navy

The NAVCOMPAN¹⁷ contains a section dealing specifically with IPE reporting requirements. Although the routing may vary somewhat from systems command to systems command, the following rules apply:

(a) All reports for requisitioning IPE or acknowledging are sent to DIPEC through the fiscal office of the Naval activity performing plant property accounting for the activity using the property. Acknowledgment to DIPEC of receipt is not required if DIPEC issued transfer instructions for the items. No time limit is specified for acknowledging receipt.

(b) When instructions are received from DIPEC to store an item that has been reported as idle, property accountability is transferred to DIPEC.

(c) When instructions are received from DIPEC to transfer or dispose of an item, the Naval activity prepares and ships the item, clears its property accountability records, and within 2 days after shipment of the item notifies DIPEC. All the foregoing transactions are cleared through

the fiscal office of the activity performing the plant property accountability function.

Evaluation

Examination of the Air Force system revealed nothing that would assist in the solution of the problems being addressed.

The Navy system is essentially the same as the present Army system. The Navy, like the Army, has been faulted both in the past and present for failure to conform to DOD (DIPEC) reporting requirements. The Navy has been criticized recently for inability to locate IPE, conflicting regulations regarding reportability of IPE, and late reporting of IPE receipt (Ref 28, pp 32-41).

PROPOSED SYSTEM CHANGES

Proposed System Changes for Contractor Reporting IPE Receipt, Transfer, and Disposal

The proposed system changes for contractor receipt, transfer, and disposal of IPE provide that (1) the property administrator's system survey will review the timeliness of contractor actions for IPE receipt, transfer, and disposal reporting and that contractor violations in these areas will be reported to the PCO; (2) the plant clearance officer will assure timely reporting of transfers and disposition to DIPEC; (3) DIPEC will provide the PCO with the names and addresses of contractors and administering contract offices of contractors who do not provide timely reporting of IPE receipt, transfer, and disposition; and (4) DIPEC will perform inventories to assure the accuracy of their own records. Figure 24 illustrates the proposed system changes. The changes are numbered in order to conform to the sequence in which they are discussed below. The underlined portions indicate a change or addition to a regulation.

1. Expand ASPR, Sup 3, Annex I, Category 2a, Receiving,¹⁵ to include characteristic (7):

(7) DD Form 1342 sent to property administrator for submission to DIPEC within 10 days after receipt of IPE purchase for Government.

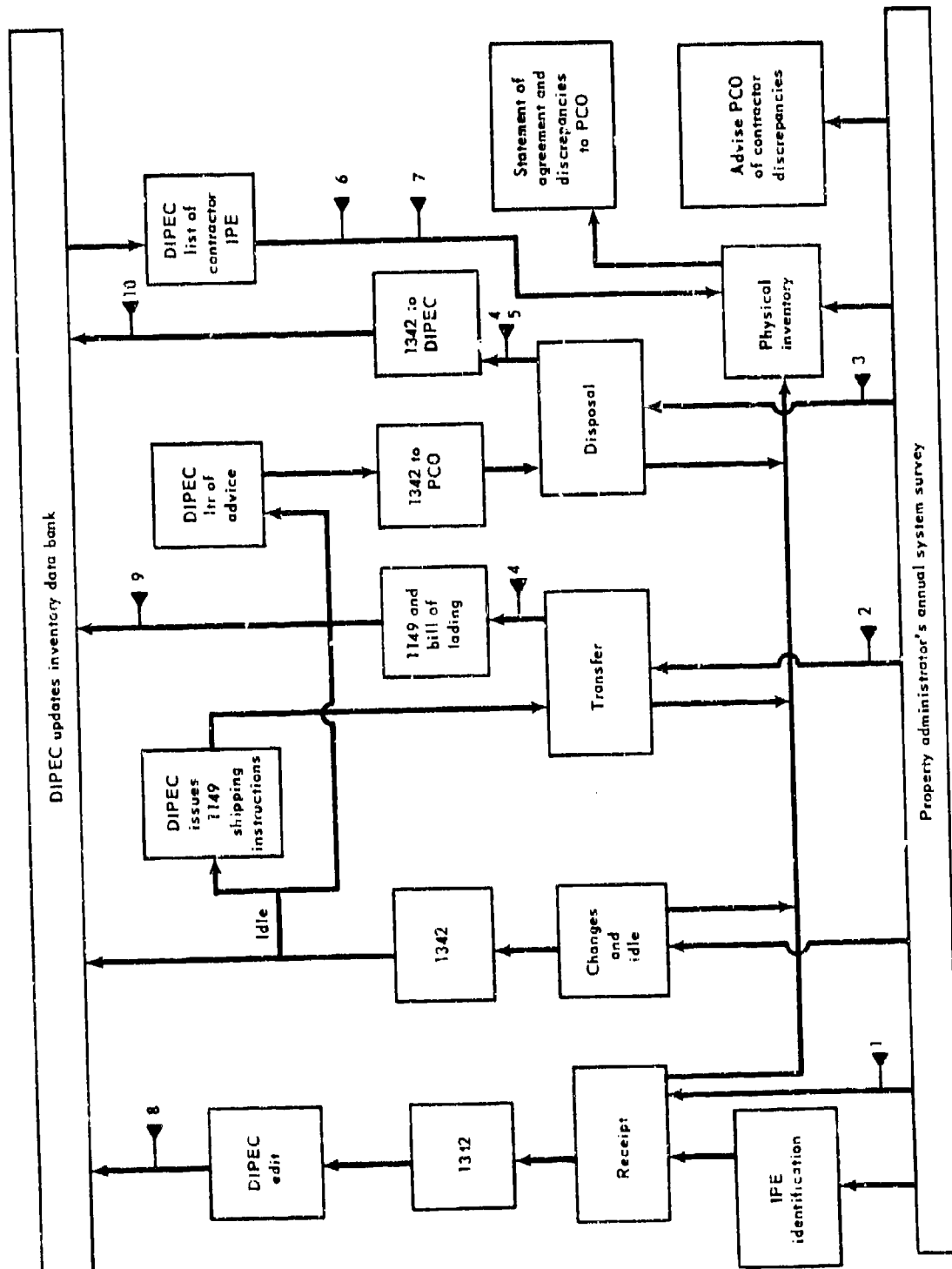


Fig. 24—Contractor Receipt, Transfer, and Disposal—Proposed System Changes

2. Expand ASPR, Sup 3, Annex I, Category 4b, Storage and Movement, Functional area¹⁵ (internal and external movements), to include characteristic (4):

(4) DD Form 1149 with bill of lading number submitted to DIPEC 2 days after shipment.

3. Expand ASPR, Sup 3, Annex I, Category 10b, "Disposition"¹⁵ to include characteristic (6):

(6) DD Form 1342 given to property administrator for submission to DIPEC within 15 working days after disposition.

4. Expand ASPR (Ref 13, Sec 24), "Disposition of Personal Property in Possession of Contractors," Part 2,

(g) The plant clearance officer shall assure that the contractor prepares a DD Form 1342 within 15 working days after IPE donation, sale, destruction, or abandonment and that Section V of DD Form 1342 is completed and the DD Form 1342 sent to DIPEC within 15 working days after the donation, sale, destruction or abandonment or that a DD Form 1149 is sent to DIPEC as evidence of IPE transfer.

5. Change DSAM 4215.1, para 20601.2,¹⁴ to read:

Final disposal of IPE in the possession of Defense contractors by donation, sale, abandonment, or destruction will be reported to DIPEC by the PCO in accordance with ASPR within 15 working days after DOD release of title or ownership.

6. Add para 201021.f to DSAM 4215.1¹⁴ to read:

DIPEC will provide defense contractor administering contract offices with a semiannual list of contractor IPE holdings for use in the contractor's annual physical inventory.

7. Change DSAM 4215.1, para 20102.1b,¹⁴ to read:

Maintain a central item inventory record for all IPE held by DOD components and defense contractors. DIPEC personnel will systematically conduct physical inventories at DOD installations and contractor operations to reconcile DIPEC inventory records with the records of DOD component installations and contractor operations. Any discrepancies indicated by the DIPEC inventory record shall be reported either to the ACO

or installation equipment manager for appropriate action.

DIPEC will only adjust their records based on official findings made in writing by the ACO or equipment manager.

8. Add para 20201.5 to DSAM 4215.1¹⁴ to include:

DIPEC will maintain a file of all CNAs issued to DOD component activities and defense contractors. This file will be queried each month to determine whether a DD Form 1342 has been received for the initial receipt of the IPE for which the CNA has been issued. Initiation of procurement action or cancellation thereof will be noted by DIPEC. The names and addresses of DOD component activities will be sent to the DOD component for corrective action for activities not submitting an initial DD Form 1342 90 days after issuance of the CNA and every month thereafter. The names and addresses of defense contractors will be sent to the PCO and ACO for contractors from whom an initial DD Form 1342 has not been received 90 days after issuance of the CNA and every month thereafter. CNAs for IPE requiring long lead time will be reviewed 90 days before the the promised delivery date and each month thereafter.

9. Add para 20401.3 to DSAM 4215.1¹⁴:

DIPEC will maintain a file of shipping instructions (DD Form 1149) and will automatically query the shipper each 7 days until the completed DD Form 1149 is received at DIPEC acknowledging IPE shipment. The names and addresses of DOD component activities or defense contractors not acknowledging shipment 2 days after the shipment will be sent to the DOD component or procurement contracting office and ACO for corrective action.

10. Add para 20601.4 to DSAM 4215.1¹⁴ to read:

DIPEC will maintain a file for required IPE disposition. The file will be queried each 30 days to determine whether a completed DD Form 1342 has been received acknowledging IPE disposition. The names and addresses of DOD component activities not reporting disposition 90 days after the automatic release date (ARD) and every month thereafter, will be sent to the DOD component for corrective action. The

names and addresses of defense contractors not reporting disposition 90 days after the ARD and every month thereafter will be sent to the PCO and ACO for corrective action.

Proposed System Changes for Army Receipt, Transfer, and Disposal of IPE

The proposed system changes for Army receipt, transfer and disposal of IPE provide that (1) the installation equipment manager will assure timely receipt and transfer reporting, (2) the applicable regulation will be revised to provide for the timely notification of DIPEC of transfers, (3) DIPEC will maintain tickler files to follow through on the timely reporting of IPE receipt, transfer, and disposal, (4) the sections for the reporting of disposals in the applicable regulation and manual will be expanded to specify a time requirement for reporting, and (5) DIPEC will produce an IPE inventory list by unit identification code (UIC) instead of possessor code to facilitate location of IPE at Army installations. Figure 25 illustrates proposed system changes, which are numbered in order to conform to the sequence in which they are discussed below. The underlined portion of the changes discussed below indicate a change or addition to existing regulations.

1. Expand AMCR 700-64, "Equipment Management Program [Ref 19, para 5f(7)], to read:

Assure that newly acquired IE has been given a proper acceptance inspection prior to use and that receipt of IPE has been reported within 2 days after receipt by means of DD Form 1149.

2. Change AMCR 755-9, "Disposal of Supplies and Equipment, Redistribution and Acquisition of Excess Installation Equipment,"²⁴ as follows:

- a. Change para 6C4 to 6C5.

- b. Insert a new para 6C4 to read as follows:

Not later than 2 days after shipment of IPE forward 2 copies of a completed DD Form 1149 stamped "Notification of Shipment" to DIPEC, ATTN: DIPEC-S. Essential data such as bill of lading number, method, and date of shipment must be included on the DD Form 1149.

3. Change DSAM 4215.1, para 20601.3,¹⁴ to read:

Final disposal data for IPE in the possession of DOD Components

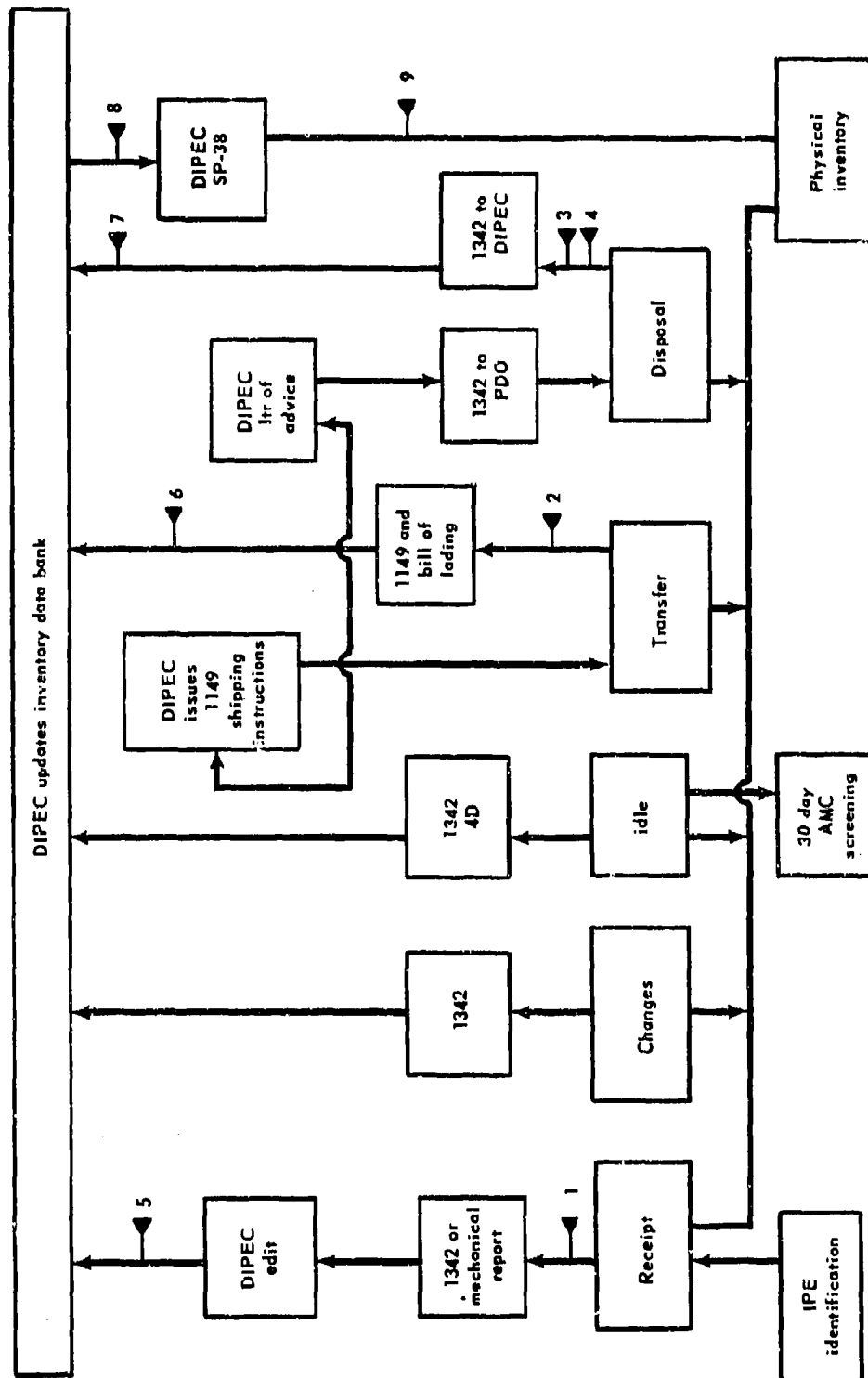


Fig. 25—Army Receipt, Transfer, and Disposal—Proposed System Changes

will be reported to DIPEC within 30 days after disposal by the PDO in accordance with DOD 4160.21 M, Defense Disposal Manual, Part 2.²³

4. Expand DOD 4160.21 M, "Defense Disposal Manual," Pt 2,²³ to include:

The property disposal officer will complete Sec V of DD Form 1342 and submit it to DIPEC within 30 days after IPE disposition.

5. Same as proposed system change number 8 for contractors.
6. Same as proposed system change number 9 for contractors.
7. Same as proposed system change number 10 for contractors.
8. Add para 20102.1f to DSAM 4215.1¹⁴ to read:

DIPEC will provide Army activities with a semiannual list of active IPE (RCS SP-38).²⁶ This list will identify activities by UIC rather than possessor code and be used to facilitate IPE location and reconcile inventory.

9. Same as proposed system change number 7 for contractors.
10. Expand AMCR 700-xx, "Command Equipment Management Program Review,"²² to include:

a 100 percent inspection of all industrial equipment having an acquisition cost of \$25,000 or more will be conducted to determine whether IPE has been properly identified.

SUMMARY

The Army and its contractors have been criticized for the late and/or nonreporting of IPE receipt, transfer, and disposal. A series of improvements have been proposed to remedy this situation. A summary of the improvements to be made at both contractor operations and Army installations is provided in Table 8.

Table 8

SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO PROPERTY ACCOUNTABILITY

Topics addressed	Proposed system changes
<p>To reduce or eliminate late/nonreporting of IFE receipt, transfer, and disposal and increase inventory control efficiency at:</p> <p>a. Contractor-operated facilities</p>	<p>a. (1) DIPEC will provide the property administrator and PCO with a listing of contractor IFE holdings; DIPEC will perform systematic inventories and reconcile DIPEC records to contractor records/holdings</p> <p>(2) The plant clearance officer will assure transfer reporting 2 days after IFE shipment and disposal reporting 15 working days after IFE disposal</p> <p>(3) The reporting requirements for disposal (15 working days) will be brought into agreement in ASPR¹⁹ and DSAM 4215.1¹⁵</p> <p>(4) DIPEC will provide the PCO and ACO with the names of contractor operations in which there is late or non-reporting of IFE receipt, transfer, and disposal</p> <p>(5) The property administrator's annual system survey will be expanded to review the timeliness of contractor reporting of IFE receipt, transfer, and disposal</p> <p>b. (1) The installation equipment manager will assure timely reporting of IFE receipt and transfer</p> <p>(2) The applicable regulation will be revised to provide for notifying DIPEC of IFE transfer</p> <p>(3) DIPEC will provide HQ AMC with the names of installations who are in violation of reporting requirements for effecting corrective action²⁵</p> <p>(4) The Defense Disposal Manual²⁵ and DSAM 4215.1¹⁵ will be changed to require that the PCO report IFE disposal within 30 days</p> <p>(5) DIPEC will provide Army installations with a printout of holdings by UIC to facilitate IFE location</p> <p>(6) DIPEC will perform systematic inventories and reconcile DIPEC records to reflect annual Army records/holdings of IFE</p>
<p>b. Army-operated facilities</p>	

Chapter 5

PROPOSED RESOLUTION OF CRITICISMS RELATING TO IPE UTILIZATION AND REPORTING OF IDLE IPE

NATURE OF PROBLEMS/CRITICISMS

The Army has been criticized for having procedures that fail to assure that IPE in both contractor-operated and Government-operated facilities are being utilized efficiently and effectively. In addition the Army has been criticized for its failure to report, or to report promptly, idle IPE.

With respect to utilization of IPE, specific criticisms include:

(a) Equipment is underutilized, and excess equipment has not been identified.

(b) Economics of equipment pooling has not been achieved.

(c) Surveillance with respect to equipment utilization has been ineffective.

(d) Criteria are needed to ascertain underutilization.

Criticisms indicating failure to report idle equipment are:

(a) Inactive IPE is being retained in lieu of reporting it as excess.

(b) Regulations governing idle status is being misinterpreted.

(c) Excess IPE has remained unreported due to absence of meaningful criteria and records for utilization.

Because of the close interrelation between these two problem areas they have been reviewed in this chapter as a single set of overlapping criticisms. In this chapter the term "idle equipment" excludes IPE that is a part of a layaway line, i.e., mobilization reserve package.

CURRENT ARMY SYSTEMS

Contractor-Operated Facilities Utilizing Government-Owned IPE

Contractor requirements related to utilization of Government-owned

IPE are governed by the ASPR (Ref 18, App B). These regulations provide that, as a minimum, a contractor shall:

- (i) establish a minimum level of utilization below which an analysis of need shall be made and retention justified, except for inactive package plants and standby lines. The utilization level may be established for individual items or families of items depending on circumstances of use;
- (ii) provide for recording authorized and actual use consistent with the utilization levels established under (i) above;
- (iii) require periodic analyses of production needs for IPE and of future utilization based on known requirements; and
- (iv) have firm provisions for immediately reporting to the contracting officer all IPE items for which retention is not justified. (Ref 18, Sec B-603.1)

ASPR provides that each contractor will propose, subject to approval by the Government's contract property administrator, the processes and procedures by which he intends to control the utilization of Government-owned equipment provided him (Ref 15, para S 3-701). In 1968 AMC issued a letter, still in effect, stating that in the case of contractor-operated plants, Government-owned IPE not being used 35 percent of the time should be reviewed to determine if retention is justified. Current DOD policy requires the ACO to determine idleness on an individual item basis taking into account the work remaining and other pertinent factors (Ref 29, p 2). As a control device, ASPR also provides that the property administrator shall conduct a utilization survey at least annually to judge how well the contractor is utilizing the Government IPE.

With respect to the requirement for reporting idle IPE to DIPEC, the same rules have applied to both contractor- and Government-operated facilities. DOD has required that idle IPE be reported when it "...has not been operated for any purpose whatsoever for a period of ten calendar days," (Ref 30, p 1) and when it, "...is no longer required for the purpose authorized or provided." (Ref 14, para 10218) These requirements still apply to contractor-operated facilities.

Army-Operated Facilities Utilizing IPE

With regard to the DOD position on utilization or retention of in-house IPE, there are no standards by which efficient utilization of

IPE can be measured. DSAM 4215.1¹⁴ requires reporting to DIPEC if IPE is idle 10 days and no longer required for the purpose authorized or provided. DOD looks to the individual services to establish and enforce utilization criteria (Ref 19, para 7d).

AR 700-90¹¹ addresses utilization but, with regard to Army in-house activities, is limited in its scope primarily to the arsenals. AR 700-90 directs that with regard to such facilities:

(a) commanders are responsible for reviewing utilization of IPE to ensure excess items are reported to DIPEC,

(b) utilization review of IPE will occur continuously at all command levels, and

(c) an exception is permitted to retain IPE despite low utilization when the item is one of a kind to a facility and is required intermittently to keep pace with or service the balance of the IPE comprising the production unit of which it is a part (Ref 11, pp 5-1, 5-2).

There is no explicit DA policy governing utilization of IPE within other facilities such as laboratories, maintenance depots, proving grounds, etc. DA has recently instituted an Equipment Survey Program that addresses equipment utilization. However, IPE, per se, is not addressed. Only equipment that should be listed on a TDA is to be addressed by the survey team.³¹ The arsenals tend to exclude the bulk of their IPE from their TDA by considering the IPE to be equipment in place. By regulation, AR 310-49,³² IPE classified as equipment in place may be excluded from the organization's TDA.

AMCR 700-82, dated 23 February 1971,³³ prescribes the following policy with respect to utilization of installation equipment (IE), a term that encompasses IPE:

(a) Maximum practical utilization will be achieved.

(b) Pooling will be accomplished to the maximum practical extent to assure optimum utilization.

(c) Maximum use will be made of the rental, lease, and loan of equipment, when economically feasible, in lieu of ownership.

(d) Government-owned IE will be placed in administrative storage when utilization criteria are not met and future requirements are uncertain (Ref 33, p.4).

AMC regulations further identify three principal organizational elements as having responsibilities relating to IE utilization:

(a) Chief of ISA—will analyze and consolidate equipment utilization data for the CG AMC;

(b) Commanders and technical directors—will acquire and retain the minimum quantities of equipment necessary to perform their mission;

(c) Equipment managers

(1) will establish factual justification of equipment densities by:

(a) usage requirements

(b) walk-through inspections

(c) local utilization criteria, or

(d) other managerial means (Ref 33, pp 4,5).

(2) will ensure that utilization standards are met, designate IE for administrative storage and pooling, and promptly report excess IE for redistribution (Ref 19, p 4).

Although AMCR 700-82³³ provides utilization criteria for selected categories of equipment, electric arc welders are the only class of IPE listed (Ref 33, App A). The remainder are materials handling equipment, construction and engineering equipment, watercraft, various types of wheeled vehicles, railway equipment, and some miscellaneous items. For IPE and other industrial equipment not in the foregoing categories, the criteria for judging underutilization is left to the discretion of the equipment manager at individual activities.

Quarterly formal reviews of individual items and the related equipment grouping is required for those categories listed above. A formal review entails the completion of an AMC Form 1568, Equipment Utilization Worksheet, for each item. On request from higher authority, the equipment manager summarizes the utilization for each category of equipment and enters the data on AMC Form 1569, Equipment Utilization Summary Sheet. For IPE and other installation equipment lacking criteria under AMCR 700-82,³³ there is no requirement for a recurring formal utilization review. As a guide to establishing local minimum utilization criteria, AMCR 700-82 directs that such criteria be based on the quantity and usage of like items as measured by elapsed time meters, statistical evaluation, actual usage, records, and facility walk-through inspections.

In reality, AMC relies primarily on walk-through inspections for measuring actual utilization. The facility commander and equipment manager are required to conduct and document semiannual utilization walk-throughs (Ref 33, p c-1).

In addition to the equipment utilization walk-throughs, ISA, a Class II activity reporting to the Director of I&S, HQ AMC, conducts a review of each AMC facility. This review is referred to as CEMPR.²² Reviews are to be conducted annually except for small or isolated activities, which may be inspected biennially. The regulation governing CEMPR has been under preparation for approximately one year.²²

DOD has recognized the need to retain certain equipment in order to support fluctuating workloads, R&D functions, or mobilization preparedness (Ref 19; Ref 27, pp 27-28; Ref 34, pp 1-2). However, operating activities have been governed by, and inspected for adherence to DSAM 4215.1.¹⁴ In general, rather than subscribe to the 10-day rule these activities have adhered to the part of DSAM 4215.1 that specifies that equipment be reported when it is no longer needed for the purpose authorized or provided.

With respect to ensuring adherence to procedures governing the reporting to DIPEC of idle IPE, the DA Equipment Survey Program does not address the subject. On the subject of reporting of idle IPE, Pt IV of the AMC CEMPR Guide²² merely refers the user to AR 700-43,¹⁴ and the 10-day rule.

A change in idle reporting requirement took place on 10 June 1971. A DOD memorandum provides that the services must report idle mission-support equipment but can retain the equipment (Ref 22, p 2). When reported to DIPEC, the item will be designated by a new status code 3H.

CURRENT AIR FORCE/NAVY SYSTEMS

Contractor-Operated Air Force Facilities Utilizing Government-Owned Equipment

With respect to utilization of equipment in contractor-operated facilities the Air Force System Command has centered attention on the following concepts:³⁰

(a) Emphasize management controls over high value equipment, i.e., equipment involving a substantial capital investment or constituting a major advance in fabrication or testing process or procedures.

(b) Make utilization surveys annually or as program adjustments, cutbacks, stretchouts, or cancellations occur.

Decisions whether to retain, pool, or declare equipment excess depends on the effectiveness of DCAS or Air Force Property Administrator to identify when low utilization of IPE is occurring. The criterion to be used specifies that when utilization of an item or group of items of equipment falls below 35 percent or 14 hours usage a week (predicated on a 1-shift, 8-hour, 5-day basis) a detailed survey should be made.

Air Force-Operated Facilities Utilizing IPE

Utilization measurement and recording are essentially the prerogatives of the commander whose principal guideline is that he have on hand only his minimum essential equipment needs. The Air Force considers all Government-owned IPE that is not being contractor-operated to fall outside the majority of the reporting requirements imposed by DSAM 4215.1.¹⁴ In the Air Force Equipment Management System (AFEMS) context, utilization of IPE is subsumed under the much broader concept of utilization of non-expendable, repairable equipment, with a unit cost of \$40 or more.

With respect to the term "idle," AFEMS does not recognize it. Equipment that has become excess to activities supported by a BEMO are reported to the AMAs. If the AMAs decide the item is excess to Air Force needs, the item is reported to the Defense Logistics Support Center (DLSC).

Heavy reliance is placed on the performance of an annual equipment validation/utilization survey of each unit supported by BEMO. Equipment management reviews are conducted by Command Equipment Management Teams (CEMT) and are principally validation/utilization surveys of equipment authorized. Discussions with personnel at HQ AFLC revealed that equipment meters are used in connection with the maintenance program, not in decisions to retain or declare equipment excess.

Navy-Operated Facilities Utilizing IPE

The Navy recognizes the subject of IPE utilization mainly in connection with the reporting of idle equipment. The Naval Comptroller's (NAVCOMP) Manual requires that IPE that has not been used for 10 days be reported to DIPEC (Ref 17, pp 6-82). An exception is made if the item is in an approved package plant or is classed as a mission support item. Although the NAVCOMP Manual is quite explicit about the requirement for the maintenance of a historical record of each item of IPE, no provision has been made for a record of the utilization history, per se, of the item.

Further insight into Navy practices with respect to utilization of IPE was obtained from interviews with personnel at the headquarters level at both NAVSHIPSYSCOM and NAVAIRSYSCOM.

NAVSHIPSYSCOM. NAVSHIPSYSCOM states that since December 1965 all new IPE have been procured with hour meters already installed where feasible. This command views good utilization data as essential in developing IPE replacement justifications and preventive maintenance programs and in pinpointing excess equipment. NAVSHIPSYSCOM requires that all shipyards install hour meters on major IPE, where practicable (Ref 35, p 1). The command also requires that a utilization history record be established and maintained on IPE with hour meters. Shipyards are to record meter readings at least twice yearly. This is intended to permit ready response to inquiries on utilization of individual items of IPE, utilization for types of IPE, and utilization within a given shop and for special functional work groupings. Utilization data are used in justifying modernization and replacement and for validating whether projected cost reductions have actually been achieved (Ref 36, p 5).

NAVAIRSYSCOM. NAVAIRSYSCOM relies essentially on local commanders to establish and maintain a system for judging whether IPE authorized for them is receiving maximum use. The principal activities NAVAIRSYSCOM controls are seven NARFs. HQ NAVAIRSYSCOM considers any IPE in a NARF facility to be in-use equipment unless reported to DIPEC as idle. Although the large majority of IPE at the NARFs is metered, little credence is placed on their value as determinants of equipment usage or retention. Personnel reductions during the past year led to discontinuance of the semiannual practice of recording meter readings.

EVALUATION OF ARMY/AIR FORCE/NAVY SYSTEMS

Utilization Systems

Contractor-Operated Facilities Utilizing Government-Owned IPE.

Although equipment management control responsibility rests with DCAS with respect to DCAS-administered Army contracts, each of the services is held responsible for contracts they administer. As has already been pointed out, the accuracy and effectiveness of the equipment management program as proposed and implemented by the contractor depends almost solely on the qualifications of the property administrator and the degree to which he applies himself. With the passage of time in administering a specific contract, it appears that the property administrator would have less and less incentive to detect faults in the contractor's utilization of IPE. Indeed there would be a fair amount of self-indictment involved since he is expected, under ASPR, to exercise some degree of utilization surveillance throughout the year.

ASPR permits each contractor to express the practices and procedures whereby he will ensure effective and efficient use of Government-owned equipment, subject to Government property administrator review. In the case of DCAS-administered contracts the study group views problems of underutilization as not one to be addressed by the Army. However, this does not pertain when Army-administered contracts are involved. Of the \$800 million worth of IPE in contractor facilities approximately \$500 million is in the hands of 23 contractors each of whom controls \$10 million or more of Government-owned IPE. Of the \$500 million, over \$300 million pertains to Army-administered contracts. A concentration of effort on these few Army-administered contractors, a close review of their utilization programs, and special emphasis on their annual utilization surveys appear to be the most feasible ways to improve utilization in contractor plants at least cost.

Unless performance under the contract is in serious jeopardy, there is at present no provision for feedback to HQ AMC concerning utilization or the results of utilization surveys. This is true both of DCAS- and Army-administered contracts. In the case of DCAS this presents a problem to DSA, not the Army, when an auditing agency finds fault with the way in

which Government equipment is being utilized. However, in the case of Army-administered contracts the Army is held fully accountable for adherence to the ASFR. However, Army property administrators are not bound to follow DCAS manuals. Thus a dual standard exists for administering Army contracts.

Army-Operated Facilities Utilizing IPE. Although DIPEC made an attempt at developing utilization standards DOD rejected them for in-house application as well as for contractor application (Ref 29, p 2). DOD did so because they believed that the diversity of in-house operations among the military services dictates against the feasibility or practicality of attempting to impose uniform standards on all three services.

The diversity of operating and mission characteristics among major AMC activities likewise dictates against a single set of standards for these activities. However, the study team feels that it is desirable to implement separate utilization standards for application to four major types of AMC facilities, i.e., arsenals, maintenance depots, laboratories, and proving grounds/test centers.

The absence of any comprehensive DA policy statement with respect to the utilization of IPE has fostered confusion and nonconformity in utilization management philosophy and procedures among AMC facilities. It is impossible to state how much of this condition is also attributable to the problems associated with property accountability, differing applications of the Army Authorization Documents System, and the very strong tendency to view IPE as a type of equipment to be associated mainly with those facilities whose principal source of funding is the Industrial Preparedness Program.

In the absence of utilization standards for almost the totality of IPE in Army-operated facilities, AMC has been relying principally on the concept of surveillance systems to detect—but not prevent—underutilization of IPE. Although the HQ AMC IG has been instructed to review certain aspects of the manner in which IPE is being managed,³⁷ the study group observed no effective follow-up from this survey source. This probably results from the fact that IG facility survey reports cover a very considerable number of topic areas, only one of which treats IPE, including utilization. Effective use of survey results implies not only follow-up on individual reports but consolidation of the results of surveys from

like or similar activities. From such information one can associate a dimension to problems and establish an order of priority by which limited resources can begin to attack major problems. The study team could find no evidence that meaningful and continuing consolidation of any survey results were being accomplished with regard to any aspect of IPE management including utilization.

DA, spurred on by fund cuts, has placed extreme importance on the value of annual equipment surveys in detecting and reporting under-utilization of equipment and equipment that is excess to the needs of an organization.³⁸ Partly as a result of this pressure, new opportunities exist for achieving significant results from surveys. Reference is being made here to:

- (1) the newly established DA Equipment Survey Program,³¹ and
- (2) AMC Command Equipment Management Program Review (CEMPR)²²

Both of these surveys will be of doubtful benefit in resolving IPE utilization problems unless the following conditions are corrected:

DA Equipment Survey Program. As currently conceived this program is restricted to equipment contained in a unit's TDA. The arsenals, in particular, exclude very sizable quantities of IPE from the TDA on the premise that IPE is in reality "equipment-in-place" and therefore need not be included in the TDA.

The initial instructions under this program indicate that it is desirable to survey every line item number with a unit value of \$2000 or an aggregate value of \$50,000. By definition this guide encompasses the vast majority of IPE. Thus, if an activity lists all or most of its IPE on the TDA, as the maintenance depots are reputed to, it would mean a survey team would be expected to survey thousands of items at just one installation, without considering the non-IPE items. This is clearly an impractical task. The clear impression exists that the survey was not really designed with IPE in mind, nor were the types of AMC facilities that use IPE prominently kept in mind by the survey developers.

Proposed AMC Command Equipment Management Program Review (CEMPR).²² In its present draft form, this AMC regulation could be improved. The most serious deficiency is the lack of clear delineation of section break outs for IPE. For example, Part IV of the CEMPR Guide (see App B) has the

heading "Management of Industrial Plant and Equipment (IPE) and Machine Tool." Machine tools costing \$1000 or more are IPE. Furthermore, Pt V of the guide is intended to encompass "Test and Measuring Equipment," sizable portions of which are IPE.

Finally there is a very high degree of redundancy among the various parts of the CEMPR Guide with respect to the subject of equipment utilization, including equipment pooling. Examples of this are Pts Ia, Ie, IIb(2), IIIf, IIh, IVe, f, Vd, e, and f.

Although utilization data should play little part in retention decisions, a number of other uses can be made of such data. The greatest difficulty is achieving a cost-effectiveness relation between collection/analysis costs, and savings to be achieved in such things as equipment pooling decisions, modernization/replacement recommendations, etc. The System-wide Project for Electronic Equipment at Depots (SPEED), which currently number about 10 of the 19 AMC depots, have the foundation, in AMCR 700-75,³⁹ for a potentially powerful and cost-effective tool in controlling the use of utilization data. The concept of an Equipment Category Rollup Code, contained in AMCR 700-75, permitting the aggregating of utilization data by generic classifications can be applied in equipment pooling studies, modernization/replacement justifications, and production process studies.

Air Force-Operated Facilities Utilizing IPE. With respect to idle reporting requirements, the Air Force includes IPE under its AFEMS systems rather than follow all the provisions of the DIPEC manual, DSAM 4215.1.¹⁴

Navy-Operated Facilities Utilizing IPE. NAVAIRSYSCOM presents a contrast to NAVSHIPSYSCOM. Although both commands require that utilization history be a factor in justifying modernization or replacement, NAVAIRSYSCOM sees little contribution being made from having installed meters on IPE. The argument put forth by the NAVAIRSYSCOM representative has two aspects:

(1) If shop personnel are aware that machine utilization history could be used to their disadvantage, e.g., removal of equipment or rejection of request for replacement if utilization is low, they will run the machines even though no work is available.

(2) The extent to which a machine has been used in the past provides

little, if any, support as to the extent to which it might be used in the future. Future anticipated workload is the key determinant against which a variety of factors concerning current and proposed equipment are evaluated.

Although meters are said to exist on the large majority of NAVAIRSYSCOM IFE, the periodic reading of meters was discontinued recently due to personnel cutbacks. Even when the meters were being read, however, it was for purposes associated with the maintenance program and not for purposes of identifying excesses or judging the feasibility of equipment pooling. Even here, however, the cost of collecting and analyzing the metered data in their opinion largely overrides the benefits to be gained.

General Observations on Equipment Utilization

Although the general conclusion from the evidence available indicates equipment utilization history data are relatively of little value in decisions whether to retain equipment or remove it from a facility, most regulations or instructions tend to emphasize their use for this purpose. The standard rationale is that utilization evaluation consists of:

- setting a standard or criterion of use by which one would suspect a piece of equipment was being underutilized
- establishing a means for determining equipment usage, for example, time meters
- periodically recording and evaluating data reflecting usage history
- turning in or pooling equipment that has been proved to be underutilized

The Natick Laboratories has a rather unusual view of equipment utilization. This view was expressed in a study conducted in response to Congressional direction.⁴⁰ The study concerned equipment management and utilization, with emphasis on the use of time meters. Natick Laboratories views its equipment management program as being designed to assure optimum equipment utilization. The equipment manager runs the program and the program consists of six elements: acquisition; utilization; turn-in of unused, excess, and obsolete equipment; equipment pools; calibration through periodic recall; and an annual inventory. By achieving the other five elements, Natick believes that it will achieve, automatically,

optimum utilization. It is worth noting that a finding of the study committee was that:

Elapsed-time meters in themselves are not adequate as a sole or primary means of determining satisfactory equipment utilization. Elapsed-time meters will be used primarily for calibration scheduling purposes, with the information obtained therefrom also serving as an indicator of items which may be pooled (Ref 40, p 1).

The Natick study reveals the individualistic style that can be taken in attempting to effectively and efficiently utilize equipment. The RAC study team believes that systems such as Natick's, which reveal a well-thought-out if nonstandard attempt at good equipment utilization, are more effective than standard systems in which very few people have confidence, as is currently the case.

Despite the considerable emphasis various investigatory reports have placed on the value of time meters on equipment utilization decisions, the weight of the evidence from the DSA study of 19 contractors,⁴¹ and the Natick Laboratories study as well as comments from Navy and Air Force personnel, do not substantiate widespread use of meters as a tool in IFE retention decisions. An examination of the AMC's use of installed meters has revealed that approximately 58 percent of the meters are idle⁴² (see Table 9).

Idle Reporting Systems

Idle reporting and the criticisms associated with this area must be viewed rather carefully in the light of the evaluation of equipment utilization. Certain of the practices for which the Army and the other services have been severely criticized are now permissible. In particular, after arguing the point for some years with the GAO, on 10 June 1971, DOD established a procedure whereby "IFE in a Government-owned, Government-operated installation or activity, subject to intermittent use, but required to remain in place to support the current assigned mission of the installation or activity" (Ref 43, p 2) would be reported to DIPEC as being in idle condition under a status code "3H." Before this change, auditing teams tended to apply the 10-day idleness criterion (Ref 14, p 2-4) while activities tended to use the "no longer required for the purpose authorized or provided" (Ref 14, p 1-2) criterion, each of which

Table 9

Status of Installed Meters in AMC Facilities
as of 30 Apr 71

Type of Activity	Total On-Hand	In-Use		Idle	
		No.	Percent	No.	Percent
Depots	4209	1941	46	2268	54
Laboratories ^a	711	168	24	543	76
Proving Grounds and Arsenals	3893	1595	41	2298	59
Miscellaneous	<u>439</u>	<u>217</u>	<u>49</u>	<u>222</u>	<u>51</u>
Totals	9252	3921	42%	5331	58%

^aData not available from Natick Laboratories

is to be found in DSA Manual 4215.1.¹⁴ In the case of the latter criterion the holders took the view that the IPE that at the moment was idle was needed for mission accomplishment or mobilization readiness. To expect arsenals, laboratories, and maintenance depots faced with varying and unpredictable annual workloads to volunteer the release of equipment is not realistic.

In view of the foregoing the criticisms cited at the beginning of this chapter as indicating failure to report idle IPE to DIPEC bear reevaluation. One criticism quite likely no longer applies simply because the ground rules for how DIPEC will treat certain idle declarations have changed. This criticism stated that inactive IPE was retained in lieu of reporting it as excess. The second criticism is likely to persist in the Army and Navy until DIPEC revises DSAM 4215.1. This criticism stated that regulations governing idle equipment were being misinterpreted. The practice of DOD issuing notice of IPE regulatory and policy changes by memorandum aggravates the problem in the Army because no logical channel for communicating these changes affecting IPE has been developed. Thus, although activities associated with the production base support program, e.g., arsenals, may hear of the change, maintenance depots, laboratories, proving grounds, and post, camps, and stations might not. This general problem has been addressed in the last chapter of this document.

PROPOSED SYSTEM CHANGES

Two general problem areas have been discussed, the underutilization of IPE and failure to report, or to report in a timely fashion, IPE to DIPEC. Each is considered in turn.

IPE Utilization

Policy. Since the concept of equipment underutilization has been shown to require tempering in the light of mission requirements, fluctuating and unpredictable workloads, etc, tailoring of this concept is required. It is recommended, therefore, that a single statement be issued by the Assistant Chief of Staff for Force Development (ACSFOR), DA, stipulating DA policy on IPE utilization. The following paragraph

is suggested for incorporation in AR 310-49. "The Army Authorization Documents System (TAADS),"³² 2 Mar 70:

In Justifying Industrial Plant Equipment, either initially or for retention, consideration should be given to the diverse nature of the activities utilizing this equipment, e.g., maintenance depots, arsenals, laboratories, proving grounds, etc. It is DA policy that decisions as to retention of these items on the TDA/MTDA be premised on planned workload and mission requirements, both peacetime and mobilization, as opposed to historical utilization data. Although data relating to past use of IPE should not be ignored, it is more meaningful to project equipment requirements based on anticipated workload for equipment groupings where this is feasible.

AMC Equipment Utilization Management. There is little doubt that, if collected economically and used widely, equipment utilization history data could be of considerable benefit to an activity. However, the generally unfavorable view that is currently applied to utilization history data plus the strong indication that time meter readings are distortions of fact dictates against suggestions for rapid or easy solutions to this problem.

It is suggested, therefore, that a series of long-term tests be run concurrently but independently of each other at four types of AMC facility: arsenals, maintenance depots, laboratories, and proving grounds/test centers. At least three activities from each type should participate, two that will test out new ideas and one to serve as a control.

The purposes of the test would be to:

(a) Establish concepts and procedures by which a facility might assure the most efficient and economical utilization of its equipment base, with particular emphasis on IPE

(b) Determine the specific applications and manner of application of utilization history data, to include such areas as machine workload projections, maintenance, calibration, and modernization and replacement

(c) Ascertain whether utilization standards or criteria serve a truly useful purpose, and if so, under what circumstances and to what extent

(d) Ascertain the nature and extent to which trade-offs should be made in attempting to economically collect, analyze, and apply utilization history data using manual, semiautomated, and automated techniques.

The proponentry of the test for each test of facility could be assigned to the following activities as desired by AMC:

<u>Type of Facility</u>	<u>Activity Responsible for Developing Standards</u>
Arsenals	Directorate of R&P, HQ AMC
Maintenance Depots	Directorate of Maintenance, HQ AMC
Laboratories	Deputy for Laboratories, HQ AMC
Proving Grounds/Test Centers	TECOM

As a proponent of HQ AMC policy and procedure on installation equipment that includes IFE, coordination of the foregoing effort could be assigned to the Directorate of I&S.

In connection with the proposed tests the following additional comments are to be considered. Barring human interference in their operation, installed meters are acknowledged to be the most efficient and accurate means for recording the use of IFE. However, there is still the problem of transferring such data to a centralized record for analysis. Although some industrial concerns have a direct equipment-to-computer data transfer capability it is highly unlikely the AMC will develop such a capability on any scale in the foreseeable future. Furthermore, continuing reductions in human resources within AMC dictate the need to maximize the benefit from their use as equipment utilization data recorders. Since approximately 10 percent of Army in-use IFE constitutes approximately 50 percent of the total dollar value, the study team suggests that test proponents consider the following order of priority in utilizing installed meters:

(a) Redistribute the meters already in possession of the Army to those activities possessing the highest dollar value of in-use IPE.

(b) Meters should be installed in all IPE in which two or more items capable of performing the same function are in inventory and where the unit acquisition cost is \$25,000 or more.

Most Effective Use of Army Equipment Utilization Surveys. Currently four inspection systems are in being for ensuring that various aspects of IPE management are being performed and performing well:

--HQ AMC IG Inspections

--Semiannual walk-through surveys by commanding officers/technical direct

--Equipment Survey Programs

--CEMPRs

Based on considerations of their impact to date, economics of motion, and likelihood of effecting improvements when deficiencies are detected in IPE utilization matters, the following suggestions are made:

(a) Eliminate the questions from the IG inspection that deal specifically with IPE.

(b) Continue the semiannual walk-through survey by the commanding officers/technical directors.

(c) For AMC activities, include the DA Equipment Survey requirements under CEMPR. That is, conduct a single annual survey of AMC facilities. The DA Equipment Survey Program is concerned only with verification of authorizations as contained in TDAs. CEMPR, which was to address the total installation equipment base, including IPE and the authorization and utilization thereof, can fill this void in the DA program.

However, CEMPR as presently conceived is highly redundant, particularly with respect to utilization. The following revisions are suggested for incorporation into the CEMPR guidelines:

(a) Change title of Part IV²³ from "Management of Industrial Plant Equipment and Machine Tools" to "Management of Industrial Plant Equipment." Adjust questions a, b, c, e, and h, accordingly.

(b) Combine: Part I a, "Equipment Utilization;" Part I e, "Equipment Pool Operations and Facilities;" Part II e, "Equipment

Utilization" (AMOR 728-1);⁴⁴ Part II g, "Equipment Pool Policies."
(See App C for possible manner of combination.)

(c) Add the following questions to Part IV:

If the activity in question operates under the Army Industrial Fund (AIF) concept (AR 37-110),⁴⁵ has the ratio of active equipment to idle equipment, as reported by DIPEC, followed the trend of revenues of AIF for the past four quarters?

For equipment lacking installed meters what method is used to judge the rate at which the IPE has been utilized:

(1) (Check one)

- (a) Equipment Operator
- (b) Foreman
- (c) Equipment Manager
- (d) Other

(2) (Check one)

- (a) periodically estimates hours of usage
- (b) periodically estimates general rate of usage, for example, heavy-medium-light-idle
- (c) periodically walks through area noting general machine activity and making note

(d) Delete question f, "Does the utilization of IPE meet the minimum criteria? (Use 20 percent minimum, 40 percent objective criteria if local standards have not been established.)"

(e) Delete Part V since, by definition, the bulk of test and measuring equipment in terms of dollar value, is subsumed under IPE.

Army-Administered Contract Property Administration Utilization Survey. The Procurement Policy Division, Directorate of R&P, HQ AMC, should advise the major subordinate commands that special emphasis is to be placed on HQ AMC review of property administration as performed in GOCO/COCO facilities administered by the Army and containing \$10 million or more of Government-owned IPE.

Accordingly, major subordinate commands in this category will be instructed to provide the Procurement Policy Division, HQ AMC, with a copy of the results of the annual property administration system

survey. The Procurement Policy Division will review the survey results for completeness and adherence to prescribed ASFR procedures, particularly that portion dealing with sample sizes.

Property administrators should be instructed to conduct a 100 percent sampling of IPE with an acquisition cost of \$25,000 or more. It is further suggested that, to facilitate submission and review, the Army adopt a standardized survey format modeled after a checklist currently being used by DCAS in conducting its plant surveys. A copy of the checklist constitutes App C.

Reporting of Idle Equipment

Three aspects of this problem are addressed: The first concerns the need to identify when equipment is becoming or has become idle. The second concerns a control mechanism to ensure that the first aspect is being accomplished. The third aspect concerns the necessity to clarify the distinction between idle and excess equipment.

Adherence to New Reporting Requirement—Status Code 3H. As a result of the changes contained in the ASD (I&L) memo of 10 June 1971,⁴³ the reporting to DIPEC of equipment that has been idle for 10 days is now applicable primarily to IPE in contractor-operated facilities. The Directorate of I&S, HQ AMC should revise AMCR 700-82³³ by adding paragraph 7 e as follows:

For AMC-operated facilities, e.g., arsenals, maintenance depots, and laboratories, the cessation of the relation of IPE to mission is the determinant of when to report an item of IPE to DIPEC as idle for redistribution. Should a mission change, thereby reducing the requirement for IPE and making some IPE excess, then the AMC facility would be bound by the 10-day reporting rule for the excess equipment (Ref 15, para 20501-1). In essence the facility would be reporting the item as excess to the mission needs rather than idle. However, should a workload decrease but the mission not change, redistribution of equipment gone idle is not intended. Thus reporting

the equipment to DIPEC promptly is not an urgent requirement. The reporting to DIPEC of IPE in status code 3H (i.e., idle but mission-essential) will occur when:

(a) It is anticipated that obvious decreases in workload are to last 6 months or longer.

(b) At the time of semiannual readings of installed meter, should a facility use meters, the utilization rate reveals possible underutilization and/or possible pooling potential due to decreased workload, either of which is confirmed through further inquiry.

(c) Semiannual walk-through surveys by the commanding officer/technical director reveal underutilized equipment.

(d) The annual CEMPR/DA Equipment Surveys reveal the underutilization of specific items of IPE.

An additional change should be made to AMCR 700-82 to increase the possibility that maximum economic benefit may result from semi-annual walk-throughs. Paragraph 7 b should be revised by adding:

However, industrial plant equipment as defined in AR 700-43 (Ref 15, para 10220), with unit acquisition cost of \$25,000 or more should be reviewed on a 100 percent sampling basis.

Furthermore, to assure the establishment and maintenance of equipment utilization records for such high-value items and to facilitate the foregoing review, App A of AMCR 700-82³³ should be expanded to include the following paragraph 8:

8. Industrial plant equipment, as defined in AR 700-43 (Ref 14, para 10220), with a unit acquisition cost of \$25,000 or more.

Percentage criteria for each item is at the option of the using installation or activity.

Management Indicator to Signify Adherence to Reporting Equipment as Idle or Excess. An additional suggestion concerns the utilization both by commanding officers/technical directors as well as equipment management survey teams of a form of management indicator. This indicator's usefulness is premised on the correlation that exists between a facility's annual workload and machine utilization. Figure 26, a hypothetical case, reflects this relation.

All the arsenals, all the depot maintenance activities, and five laboratories operate under the AIF as prescribed under AR 37-110.⁴⁵ The concept underlying the AIF consists of a revolving fund with any work performed being supported by a specific fund citation from the activity being serviced.

Under the provisions of AR 37-110, para 5-8.d.(1), each activity must submit an annual report, "Army Industrial Fund—Statement of Revenue and Costs," DA Form 2266-R. This form is shown as Fig. 27. Items 1 to 17 represent the source of all revenue covering the past fiscal year (Col 1), the current fiscal year (Col 2), and the estimates for the budget year (Col 3). Only items 1 to 17 would be considered in the proposed method. Before implementing the method the major subordinate commands, which are the holders of the bulk of the Army's IPE, should agree on which of the 17 items listed should be excluded since some items might not truly reflect IPE utilization.

The Directorate of I&S, HQ AMC, should revise AMCR 700-82³³ to require the equipment manager of AIF facilities to prepare and maintain a graph similar to Fig. 27. That portion of the graph relating to revenues received or projected would be obtained internal to the facility from DA Form 2266-R. That portion of the graph dealing with the acquisition cost of IPE would be obtained from DIPEC, for the past fiscal year. DIPEC-originated data would consist of the acquisition cost of IPE for that facility broken out by:

- (a) IPE in use at the beginning of the fiscal year
- (b) IPE reported as idle (excess to facility's needs) during the past fiscal year, plus other equipment released to DIPEC
- (c) IPE reported as status code 3H (i.e., idle but essential to facility's mission) during the past fiscal year

(DEPARTMENT) INDUSTRIAL FUND
STATEMENT OF REVENUE AND COSTS

	REVENUE	FISCAL YEARS		
		19 Actual (1)	19 Estimate (2)	19 Estimate (3) (In Thousands)
1.	MANUFACTURE AND ASSEMBLY			
2.	CONSTRUCTION AND CONVERSION			
3.	OVERHAUL, REPAIR AND RENOVATION			
4.	ALTERATION AND MODIFICATION			
5.	RESEARCH AND DEVELOPMENT			
6.	TRANSPORTATION SERVICES			
7.	PORT TERMINAL OPERATIONS			
8.	COMMUNICATIONS SERVICES			
9.	PRINTING SERVICES			
10.	LAUNDRY AND DRY CLEANING SERVICES			
11.	UTILITY AND SANITATION SERVICES			
12.	SUPPORT OF SERVICE WIFE SUPPLY			
13.	SUPPORT OF TENANTS AND SATELLITES			
14.	ADDITIONS AND IMPROVEMENTS TO PLANT			
15.	SUPPORT OF RESERVE INDUSTRIAL CAPACITY			
16.	OTHER PRODUCTS AND SERVICES			
17.	TOTAL EARNED REVENUE			
COSTS				
18.	COSTS INCURRED			
	a. Materials, Supplies & Parts Used			
	b. Salaries and Wages			
	c. Contractual Services			
	d. Other Costs			
19.	LESS COSTS OF ITEMS MANUFACTURED FOR ACTIVITY (INVENTORY)			
20.	COSTS INCURRED FOR CUSTOMERS			
21.	(INCREASE) DECREASE - WORK IN PROCESS			
22.	COSTS OF GOODS AND SERVICES PRODUCED			
OPERATING RESULTS				
23.	NET OPERATING RESULTS		XXXX	XXXX
24.	PRIOR YEAR ADJUSTMENTS		XXXX	XXXX
25.	ADJUSTED OPERATING RESULTS		XXXX	XXXX
26.	OPERATING RESULTS - BEGINNING OF YEAR	A/		
27.	ACCUMULATED OPERATING RESULTS			
28.	UNFUNDED COSTS			
	a. Military Personnel			
	b. Depreciation - Plant and Equipment			
	c. Other			
OPERATING STATISTICS				
29.	PERSONNEL ON BOARD - END OF PERIOD			
	a. Military			
	b. Civilian			
30.	OPERATING COSTS PER DIRECT LABOR MAN DAY (FUNDED)			
	a. Direct Materials and Parts Used			
	b. Direct Labor and Overhead			
31.	PER CENT UTILIZATION OF PLANT			

A/ Includes net gain (loss) in amount of \$_____ resulting from closed activities.

Fig. 27—Sample of AIF Statement of Revenue and Costs

AIV-23

(d) IPE reported as acquired (i.e., initially reported to DIPEC during the past fiscal year)

During the current fiscal year the equipment manager would post the equivalent of items(b), (c), and (d), preceding, on a quarterly basis, together with the revenues received under the AIF. During semiannual walk-through inspections by the commanding officer/technical director as well as the annual CEMPR, this graph would be reviewed for adherence to the correlation anticipated.

The proposed graph would serve as a management indicator in two ways: First, it would provide the commanding officer/technical director with a tool for judging whether his employees are likely to have been achieving economies resulting from a lower workload and equipment being placed in an idle status (e.g., lower maintenance cost) and whether they have been adhering to the DIPEC reporting requirement for status code 3H. Secondly, the graph, if made available in advance of the equipment management survey, would provide the team with a broad indicator of management's control over active and idle equipment in the face of fluctuating workloads.

To the degree that an activity can anticipate its workload it should be able to anticipate the need to activate or acquire IPE or to declare it excess or idle. With experience a facility could use such projections in graphic or raw data form to anticipate the rate at which IPE should be declared idle (i.e., status code 3H), and monitor actions accordingly.

Clarification of Definitions of Idle and Excess Equipment and Reporting Requirements, DSAM 4215.1. To clarify the distinctions that should be made between reporting of equipment when it is (1) idle but not excess to the mission requirements of a facility and (2) idle and excess to the mission requirements of a facility, the following changes are recommended to DSAM 4215.1.¹⁴

Change para 10218 as follows:

Idle IPE. Depending on the holder two distinctions pertain:

1. IPE in the possession of a Defense contractor, not currently being utilized but being allowed to

remain in the possession of the contractor pending completion of mobilization planning or foreseeable requirements. Such IPE will be reported to DIPEC under status code 4F.

2. IPE in the possession of DOD in-house installations and activities not currently being utilized or utilized intermittently, but retention by the installations and activities is essential for mission support. Such IPE will be reported to DIPEC under status code 3H.

Change "Section V—Idle Declarations" to "Section V—Declarations of Installation or Activity Excess Equipment."

Change paras 20501 and 20601 so that wherever the word "idle" appears in relation to equipment in possession of an installation or an activity, there is substituted the term "excess to the needs of the installation or activity," or the equivalent, as suitable to the general wording of the sentence in question.

Change "Section VI—Excess and Disposal Reporting" to "Section VI—DOD Excess and Disposal Reporting."

Add:

Section VII—Idle Reporting 20701—Procedure

1. IPE of the types listed in Appendix 1A will be reported on DD Form 1342 (two copies) to DIPEC by the user, through required intermediate activity, at the time any of the following conditions apply:

a. the activity anticipates no change in mission but does anticipate decrease in workload that is to last 6 months or longer.

b. the activity, as a result of walk-through inspections or equipment management surveys, determines that IPE has become idle, or that certain IPE can be pooled thus temporarily relegating other IPE to an idle status.

Change para 10219—"Idle Report" so that it reads, "...in accordance with paragraph 20701."

The foregoing changes should be supplemented by a general review of DSAM 4215.1¹⁴ so as to clearly distinguish between a DOD/DIPEC concept of what "idle IPE" and "excess IPE" consist of and what these same terms mean to a DOD component, e.g., Army, and its installations and activities.

Most Effective Use of Army Equipment Surveys. In order to evaluate the degree to which AMC facilities are adhering to current requirements concerning the reporting of idle and excess equipment to DIPEC, the following changes are recommended to Part IV of the proposed CEMPR Guide.

Delete paragraph g., "Is idle out-of-use IPE reported to DIPEC in 10 days as required by AR 700-43,¹⁴ and para 5-5d, AR 700-90?"¹¹

Add the following paragraphs in lieu of paragraph g:

With respect to IPE that is idle but still essential to the activity's mission need, has the activity been reporting such equipment to DIPEC under status code 3H?

Has the activity been identifying idle equipment, in the context of the preceding question, through the following means:

1. Where decreases in workload are to last 6 months or longer
2. At time of semiannual readings of installed meters the utilization rate indicates possible underutilization and/or potential pooling possibilities
3. At semiannual walk-throughs by commanding officer/technical director

Has there been a change in the mission of this activity affecting equipment needs since the last CEMPR?

If yes to preceding question and impact is to reduce equipment requirements:

1. Has the activity reported such excess IPE to DIPEC within 10 calendar days of its becoming idle?
2. Or has the activity made adequate plans to report such equipment reductions when the equipment becomes idle?

SUMMARY

In this chapter two major problem areas have been identified, i.e., underutilization of IPE and failure to report IPE to DIPEC or failure to do so in a timely fashion. In examining these problem areas a distinction has been made as to the nature of these problems as they have their roots in a contractor-operated environment or a Government-operated environment. The degree of control permitted the Army in these two types of situations differs significantly, the latter permitting greater asset visibility and a closer control since ASPR does not govern.

In examining these problems as they apply to the Army, a review has been made of pertinent facets of the Navy and Air Force systems. This review offered little of note other than the observation that each of the military services views the subjects of utilization, utilization standards, utilization of installed meters for obtaining usage histories, and idle/excess reporting in a different light. The Air Force, for example, although recognizing the need to report excess IPE apparently reports it to DLSC in accordance with MILSTRIP requirements, and does not report excesses to DIPEC. The Air Force does not recognize the term "idle" as used in DSAM 4215.1.¹⁴ One point on which there was concurrence among all three services was that anticipated workload was the prime determinant in IPE retention/excess decisions, not the rate at which an item had been used.

In proposing system changes, two principal topics have been addressed: IPE utilization, and reporting of idle equipment. The subdivisions addressed within each of these areas together with the related recommendations have been summarized in Tables 10 and 11 respectively.

Table 10

SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO IPE UTILIZATION

Topics addressed	Proposed system changes
(a) Policy	(a) Establish comprehensive DA policy on IPE utilization; emphasize nonreliance on utilization history for decisions to retain or declare IPE excess
(b) AMC equipment utilization management	(b) Long-term tests should be instituted for each type of activity: arsenals, maintenance depots, laboratories, and proving grounds/test centers; purposes of tests would be to: <ol style="list-style-type: none"> (1) Establish concepts and procedures for most efficient and economical use of IPE (2) Determine areas of best application of utilization history data (3) Determine efficacy of utilization standards (4) Determine areas of trade-off in economics of collecting, analyzing, and applying utilization history data under various processes Ancillary proposal is to concentrate use of time meters on high priced IPE, i.e., $\geq \$25,000$
(c) Most effective use of Army equipment surveys	(c) For the four inspection systems currently in being it is proposed that: <ol style="list-style-type: none"> (1) The portion of the AMC IG inspection relating to IPE be eliminated (2) The DA Equipment Survey Program for AMC activities be subsumed under the CEMPR (3) The semiannual commander's walk-through be continued Further, a number of changes to CEMPR are proposed
(d) Army-administered contract property administration utilization survey	(d) Procurement Policy Division, Dir R&E, HQ AMC, is to place emphasis on small number of GOCO/COCOs which control, individually, \$10 million or more of Government-owned IPE; additionally: <ol style="list-style-type: none"> (1) Provision is made for annual report to HQ AMC from such activities on property administration (2) Property administrators are to perform 100 percent sampling when surveying IPE with acquisition cost $\geq \\$25,000$ (3) Adaptation of DCAS checklist form by AMC is proposed to facilitate uniform implementation of foregoing

Table 11
SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO REPORTING OF IDLE IPE

Topics addressed	Proposed system changes
(a) Adherence to new reporting requirement—Status Code 3H	(a) To assure implementation and adherence to the new requirements changes are proposed to AMCR 700-82 ³⁵ to reflect: <ul style="list-style-type: none"> (1) AMC interpretation of new code (2) Criteria for application (3) Need during walk-through inspections for 100 percent sampling
(b) Management indicator to signify adherence to reporting equipment as idle or excess	(b) Since majority of Army-operated IPE is in AIF facilities equipment managers at such facilities will: <ul style="list-style-type: none"> (1) Initiate and maintain RAC-proposed graph comparing summary AIF revenues to summary equipment inventory transactions (2) Provide graph to commander and others surveying equipment management and utilization (3) Use the graph to monitor the rate at which equipment transactions should occur based on anticipated AIF revenues
(c) Clarification of definitions of idle and excess equipment and reporting requirements	(c) To establish the distinction between the military services and DIPEC on the use of the terms "idle" and "excess," changes are proposed to DSAM 4215.1 ¹⁵
(d) Most effective use of Army equipment surveys	(d) A number of changes that emphasize the 3H status code are suggested to the GEMPR Guideline

Chapter 6

RESOLUTION OF CRITICISMS RELATING TO EXCESSIVE COSTS OF REPAIRS TO IPE AND POOR PREVENTIVE MAINTENANCE PRACTICES

NATURE OF PROBLEMS/CRITICISMS

Army installations and contractors have been criticized from several sources for noncompliance with AMC guidance on repair expenditure limitations for in-use IPE; incurring excessive costs for and making uneconomical repairs; not screening DIPEC for replacements of IPE prior to extensive repair or rebuild; and the lack of uniform maintenance standards, record keeping, and established repair cost limitations. In addition the Army has been cited for having poor preventive maintenance (PM) practices for in-use IPE.

CURRENT SYSTEMS AND EVALUATION--ARMY

Current System, Contractor-Operated Facilities

The current Army maintenance and PM system for contractor-operated facilities is shown in Fig. 28. For contractor-operated facilities, maintenance and PM requirements are specified in ASPR contract clauses [Ref 13, 7-702.14 (a thru f) and B-600, 601, and 602]. Paragraph a of 7-702.14 calls for the contractor to "perform normal maintenance of the Facilities in accordance with sound industrial practice, including protection, preservation, maintenance, and repair of the Facilities, and with respect to equipment, normal parts replacement."¹³ Paragraph b requires submission by the contractor to the contracting officer, for approval, of a written "proposed normal maintenance program, including an appropriate maintenance records system." Clause B-101 places responsibility for approval of contractors' programs on the property administrator. On approval it becomes an obligation of the contractor to carry out the

programs. Clause B-602 describes some of the required details of the contractor's maintenance program, particularly for PM, and also covers disclosure and reporting of the need for major repair, replacement, or rehabilitation of Government-owned equipment and the need for providing records of maintenance actions and inspections.

ASPR Supp 3 (Ref 15, Annex I, Category 7), describes two functional areas of maintenance to be surveyed once a year by the Government property administrator at the contractor's facility to determine compliance with the approved maintenance program. The first area checks the adequacy of PM scheduling and record keeping. The second area checks the adequacy of scheduling and performance of inspections for capital-type rehabilitation, accomplishment of such actions when necessary, and record keeping including costs. Requests from the contractor for funds for capital rehabilitation of industrial equipment above the "normal maintenance" level are reviewed by the ACO, with the assistance of various technical specialists. If the request and cost estimates are valid, considering the age and efficiency of the equipment and the expectation of continued use by the contractor, and the contractor's need is urgent or repair only is required, the ACO will submit the request directly to the PCO for approval and authorization of funds. If the contractor's need is not urgent and the equipment requires rebuild or overhaul, the ACO will submit a DD Form 1419 to DIPEC requesting clearance in accordance with the requirements of AR 700-43 (Ref 14, para 70301-1.a, C.6). If a replacement is available and acceptable the PCO is notified to provide funds for shipment. If a replacement is not available or not acceptable the PCO must decide whether to rebuild the equipment, borrow a similar item, or request approval to purchase a new item. In making his decision the PCO is bound by an expenditure limit for repair or rehabilitation of "normally, an amount not more than fifty percent of the acquisition value of an item of industrial equipment..."^{46,47} However, if "the required and essential production schedules would not permit time to deliver new or replacement equipment,"^{46,47} the limit may be exceeded to obtain an immediate repair action.

Current Systems, AMC-Operated Facilities

The hierarchy of current and proposed regulations that bear on

maintenance and PM activities at AMC installations is shown in Fig. 29. The DOD level directives and instructions and the Army regulations provide general concepts, objectives, and policies and prescribe responsibilities of various commanders or organizations. An exception to these is AR 37-100-72,⁴⁶ in which the statement of a maintenance expenditure limit although specific is minute and almost invisible among the description of fiscal codes. Another exception is AR 750-33,⁴⁸ which, although pertinent, contains detail on PM programs that appears to be out of place in an Army regulation. At the AMC level the regulations provide considerable detail on maintenance and PM programs, including responsibilities of installation personnel and procedures for operating the system. Two of the AMC regulations are in the proposal stage although RAC has been told the TEMPR²² is currently being applied in the field. AR 750-33 has been held up pending issuance of the DODI,¹⁰ and AMCR 750-xx⁴⁹ has been withheld almost 2 years awaiting AR 750-33.

The presence of so many pending elements in the IPE maintenance and PM systems, as represented by the unissued regulations, has made it difficult for RAC to do more in this area than provide some general conclusions and guidance for the resolution of areas of conflict or to obtain program improvements. The DCSLOG representative to the Study Advisory Group (SAG) requested at the July 1971 SAG meeting that the study team look into the possibility of overlap between the proposed AR 750-33 and the existing AR 750-1.⁵⁰ However, time was not available to perform sufficient analysis so as to take a firm position on the matter.

Preventive Maintenance at AMC Facilities. The current system for PM of in-use IPE at AMC installations is described by Fig. 30. The basic document for equipment management is AMCR 700-64,¹⁹ which prescribes the formation of an Equipment Control Branch, within the Equipment Management Office at an installation, and the branch's responsibilities for developing local PM requirements and regulations. AMCR 700-75³⁹ supports and complements AMCR 700-64 by providing instructions for a uniform automated record keeping system that includes both PM and maintenance.¹⁰ AMCR 700-75, however, applies only to installations identified as SPEED depots. Other installations not now equipped with a computer capability are to be covered by manual procedures contained in the proposed AMCR 750-xx.⁴⁹ Both

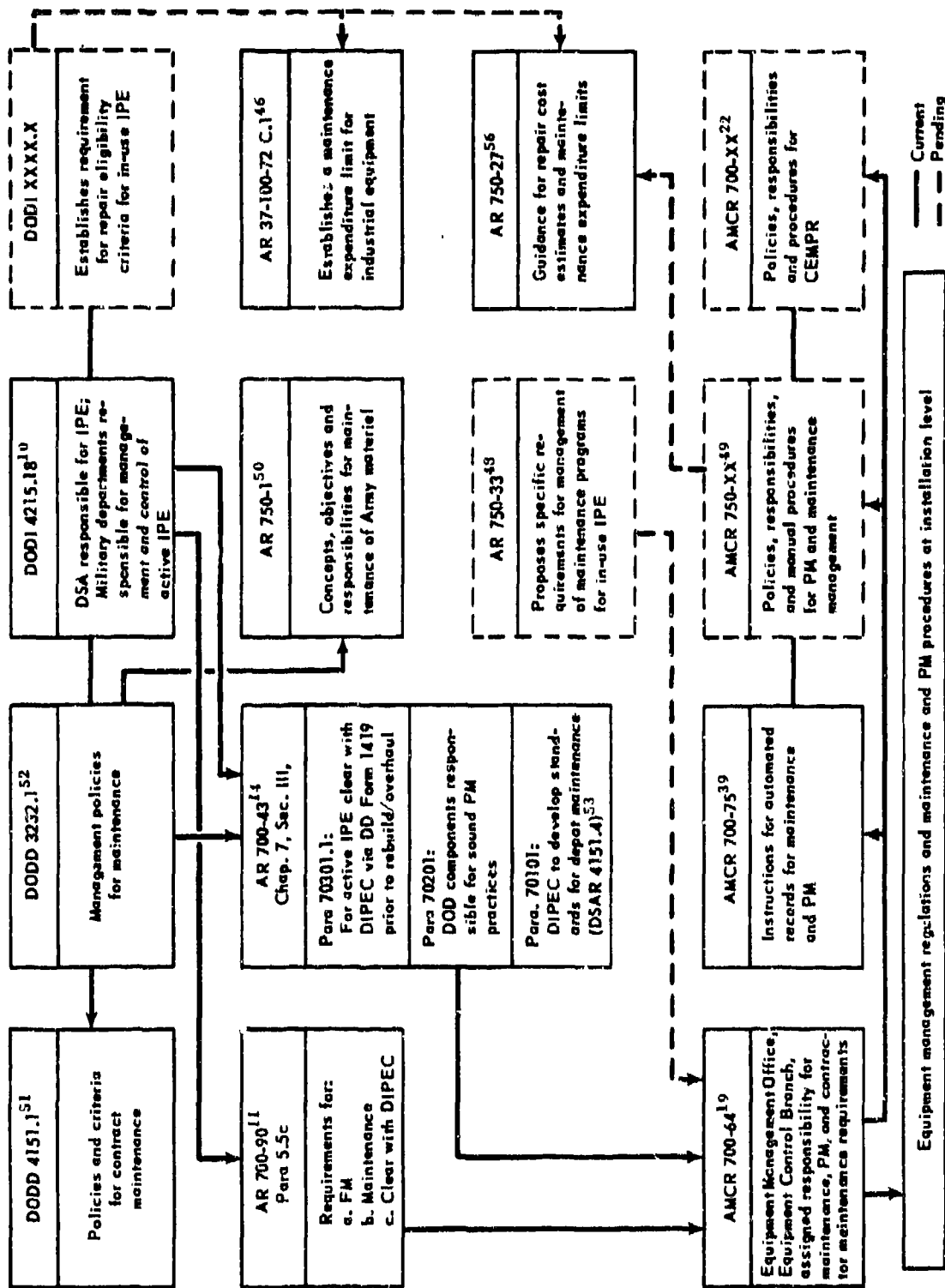


Fig. 29—Current and Pending Regulations on Maintenance and PM

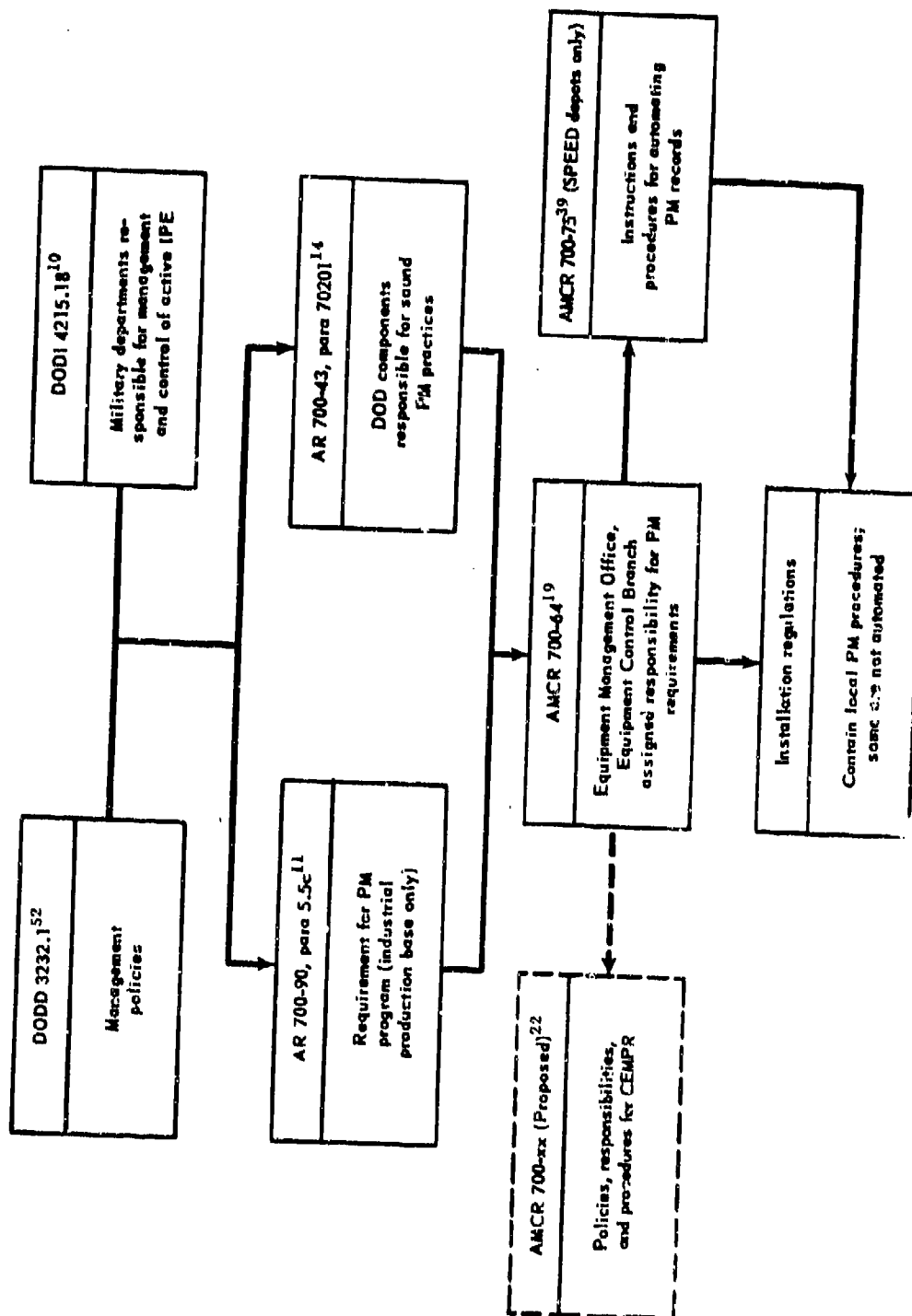


Fig. 30—Current System for PM of In-Use IPE at AMC Installations

AMCR 700-75 and 750-xx refer to the use of maintenance and PM record forms contained in TM 38-750.⁵⁴

Approval of Maintenance Expenditure at AMC Facilities. The primary auditing agency complaints in the maintenance area concerned the making of uneconomical repairs or incurring expenditures above the limit of 50 percent of acquisition cost; not clearing with DIPEC prior to making such repairs; and poor record keeping for maintenance actions. The DOD, Army, and AMC-level regulations previously described in the PM area also covered maintenance, and descriptions of these will not be repeated, although the conclusions pertinent to maintenance will be repeated where applicable. The following paragraphs will stress the details of the current system for approving the expenditure of funds for IPE maintenance, since the adequacy of this system has been questioned by auditing agencies at AMC arsenals, depots, and laboratories.

The current system is detailed in Fig. 31. A need for repair results in a maintenance request and a cost estimate that is matched against the prescribed limit. At the same time a determination is made whether rebuild/overhaul is required. If the repair estimate does not exceed the limit of 50 percent of acquisition cost, and rebuild/overhaul is not required the installation may proceed with repair using their OMA funds. If the cost estimate exceeds the limit and/or rebuild/overhaul is required, and the need is too urgent to await DIPEC clearance for a replacement item, the repair is again made from OMA funds. If the need is not urgent the procedure prescribed in AR 700-43¹⁵ for clearing with DIPEC is followed, resulting in either an acceptable replacement being available, in which case the problem is resolved, or no acceptable replacement available, which gives the same result as no replacement of any kind being available. The latter two results require a decision by the installation to (1) borrow a similar item from another facility, (2) attempt to procure a new item or (3) rebuild the failed item regardless of repair cost limit. Due to the delays involved in finding an acceptable item for loan or obtaining approval for new procurement, rebuild is the most likely course of action, resulting almost invariably, in excessive repair costs.

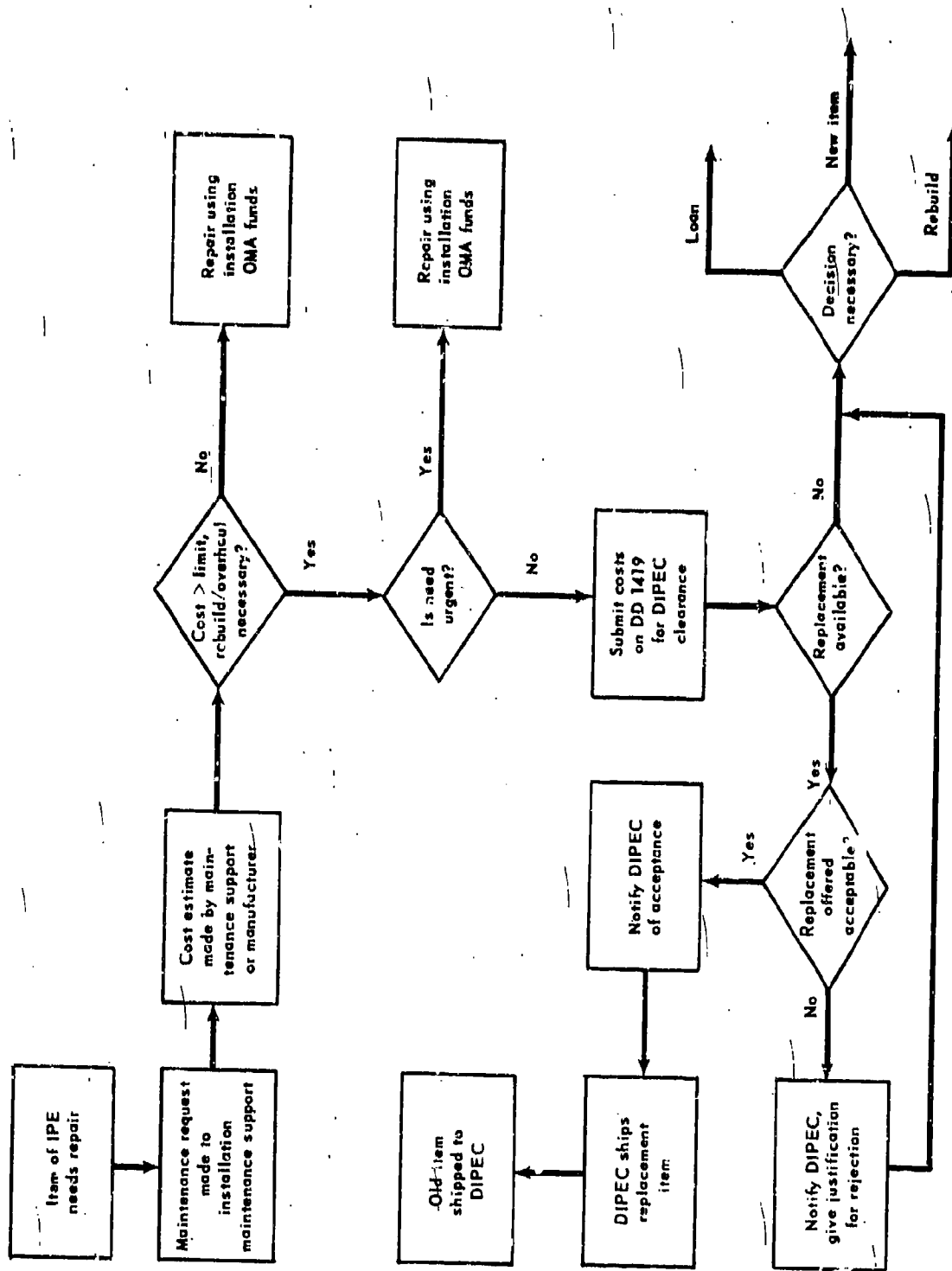


Fig. 31—Current System for Approval of IPE Maintenance Expenditures

Evaluation of Current Systems

Contractor-Operated Facilities. All reviewing agencies reported deficiencies in maintenance record keeping, excessive costs for repairs, and uneconomical repairs made by contractors. The ASFR requirement for initial approval by the PA of the maintenance program submitted by the contractor should provide the opportunity for determining that a contractor's program is adequate. There were no complaints by reviewing agencies in this area. The complaints pertained to insufficient implementation of the program, but the PA's annual survey, if competently done, plus periodic informal checks should provide sufficient control in this area.

The primary area of complaint was the lack of control of costs for repair or rehabilitation. Responsibility for expenditure of funds rests solely with the PCO. He should be aware of the limits on expenditures and the urgency of the contractor's needs when making his decision. However, there is no control on the maximum amount that may be spent for repair or rehabilitation once the limit is exceeded nor is there a means for recording the justification for an expenditure above the limit for use in a possible review by an auditing agency.

Preventive Maintenance at AMC Facilities. The current system for PM lacks any feedback to HQ AMC that would indicate that the various installations have indeed complied with the requirements for developing a local PM program. There is a void where no detailed instructions presently exist for other than SPEED depots. The existence of proposed IPE management regulations at both Army and AMC levels poses a problem that must be resolved. TM 38-750,⁵⁴ in its statement of scope, excludes application to IPE.

Approval of Maintenance Expenditures at AMC Facilities. The system lacks control, documentation of excessive expenditures, and sources of information useful to improved decision making. It also suffers from the lack of definition of expenditure limits that was evident in the prior discussion of contractor-operated facilities. Some of the conclusions from the contractor-operated facilities area and PM areas are equally applicable to this area.

CURRENT SYSTEMS AND EVALUATION--NAVY/AIR FORCE

To identify any ideas that might be profitably adapted to Army needs in attempting to improve the Army maintenance and PM systems, a very brief review was made of existing Air Force and Navy systems currently serving the same purpose.

Navy System and Evaluation

Within the Naval Air Systems Command each activity has its own PM program, the contents of which are locally determined. There exists no guiding document at present to prescribe PM practices for all activities. However, an assignment was recently made to one of the field activities to design an automated program for PM that would be applicable to all activities. The command states that they observe the requirement to clear with DIPEC prior to rebuild/overhaul but rebuild requires approval from Headquarters. The command will obtain a quotation from the manufacturer prior to committing themselves to any rebuilding and will consider replacement as an alternative. Usually they will replace due to the age of the equipment and the technological state-of-the-art advantages that may be obtained. The funds for rebuilding come from the Naval Industrial Fund. If repair cost is less than \$5000 the Commanding Officer at an activity can make the decision to repair without Headquarters' approval. If the cost exceeds 40 percent of acquisition cost DIPEC must be cleared first.

At the Naval Ship Systems Command, PM procedures are covered in detail in a 1959 regulation. Approximately 2 years ago one of the shipyards was requested to develop a new set of automated procedures for PM but the task has not been completed. In this command, PM is also covered by the Naval Industrial Fund. There is no limit on expenditures for repairs; approval is necessary only at the shipyard level. However, this command stresses the recording of maintenance costs for each item of IPE, and any analysis for replacement of an item will be based on the utilization of the item plus its maintenance cost record in addition to urgency of need. The command states that they observe the requirement to clear with DIPEC prior to rebuild.

Overall, AMC is ahead of the Navy in automating PM procedures. In the maintenance area the use of maintenance cost history as background

to repair/replacement decisions appears to be useful, and the recording of this type of data has been suggested earlier in this chapter.

Air Force System and Evaluation

In the Air Force, maintenance of in-use IPE is accomplished in-house at the various AMAs. Guidance for maintenance activities is contained in AF Manual 67-1.²⁷ It is the AF policy to condemn an item of equipment rather than repair it if the estimated cost to repair exceeds 65 percent of the stock listed unit cost, which is current catalog or replacement cost.

PROPOSED SYSTEM CHANGES

Contractor-Operated Facilities

Since evaluation of the maintenance aspects of the current system for contractor-operated facilities indicates that the primary control point for rehabilitation costs is the PCO, any improvements must be related to his function. Several conclusions have been reached in attempting to improve the current system. The proposed changes are shown with dotted lines on Fig. 32.

First, it is desirable to prevent unnecessary or uneconomical repairs from being made when a replacement may be available from DIPEC. As it currently reads, paragraph 70301 of AR 700-43¹⁴ requires clearance with DIPEC only prior to rebuild or overhaul, these being assumed equivalent to rehabilitation. A repair action does not at present require clearance with DIPEC even if a major repair is involved. This is clearly not the intent of AR 700-43, and this loophole should be closed. RAC has been informed by DSA that change 7 to AR 700-43 will require clearance with DIPEC prior to "major repairs" of active IPE as well as for rebuild/overhaul. This change will close the gap if "major repair" is suitably defined.

An attempt has been made to define a major repair in a draft of a proposed DODI on the establishment of repair eligibility criteria for in-use IPE.⁵⁵ In the draft document a major repair is defined as one that "exceeds 40 percent or \$8000, whichever is less of the standard

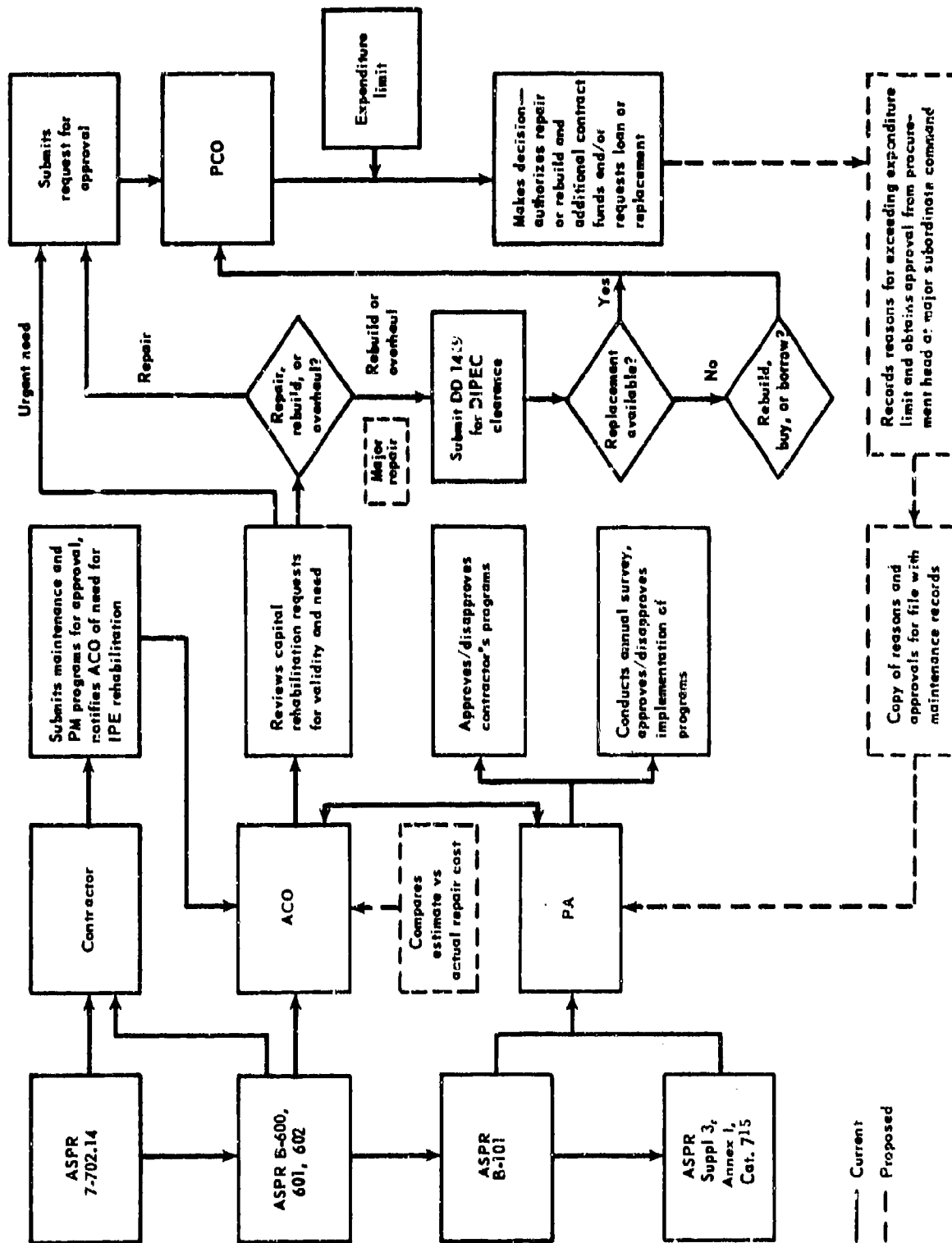


Fig. 32—Proposed Maintenance and PM System—Contractor-Operated Facilities

inventory cost" (Ref 55, Sec III, para A5). The standard inventory cost is a current or replacement cost for the item. Since the Army wishes to base its expenditure limit for IPE on acquisition cost rather than replacement cost a second conclusion must be that, for Army purposes, the definition of "major repair" given in the proposed DODI should be based on acquisition cost to preclude the need for obtaining or computing a replacement cost. Establishment of a definition of major repair is a requirement for effective control of repair costs and it should be included in the definition section of AR 700-43¹⁴ for ready reference.

A third conclusion is that the use of acquisition cost as a base for computing expenditure limits, as stated in AR 37-100-72,⁴⁶ is in direct conflict with AR 750-27⁵⁶ and its subsidiary technical bulletins, which prescribe expenditure limits for determining the economic repairability of Army materiel and use a percentage of replacement cost as a reference point. This conflict might be resolved by placing in AR 750-27 a statement that it does not apply to IPE, assuming that it is indeed the Army's intention to provide different bases for repair eligibility for items of supply other than IPE.

A fourth conclusion is that some control is needed on repair costs that are estimated to exceed the expenditure limit and are approved by the PCO owing to urgent scheduling requirements. It is suggested that any costs that would exceed the expenditure limit should require the additional approval of the head of the procurement activity at the major subordinate command. This procedure would ensure that the reasons for exceeding the limit are clearly stated and have been validated.

A fifth conclusion is closely related to the last one. It would require that in all cases the PCO record the reasons for exceeding the expenditure limit and send a copy of this record, including the signature of the head of the procurement office involved to the property administrator to be filed with maintenance records for the item of IPE in question. The records would then be complete and would be available for review at a later time in the event of an inquiry by an auditing agency.

A sixth conclusion is that the actual costs of repair or rebuild/overhaul should be recorded and compared with the original cost estimate by the ACO for the information of the PCO. It is possible that the reason

for exceeding repair expenditure limits is because estimates are lower than the actual costs. The comparison procedure suggested would, over time, provide a measure of the accuracy of estimates, and lead to any necessary improvements. This comparison should be required only on a temporary basis, for perhaps 1 year, and could be eliminated if it is shown that estimating is not a problem or if sufficient data are made available from the comparison to resolve any apparent problem. Although the comparison may be discontinued after serving its purpose, recording the actual cost of repairs on the maintenance record for each item of IPE should be continued. The maintenance cost record would be a useful gauge of the performance of the item that could be reviewed during any consideration of possible replacement instead of additional repairs.

Preventive Maintenance at AMC Facilities

Two alternative systems are proposed for improving PM management as shown in Figs. 33 and 34. The only variation between them is that Alternative 1 (Fig. 33) assumes that the Army-level regulation will survive and that Alternative 2 (Fig. 34), assumes the AMC regulation will survive. The study team's position is that one or the other of these regulations is sufficient; both should not be required. Several proposals and conclusions are independent of these two regulations, however, and these will be discussed first.

It is proposed that each AMC installation send copies of both its PM and maintenance regulations back to HQ AMC (I&S) as evidence of compliance with AMCR 700-64.¹⁹ These submissions should be updated annually if any changes have occurred and provide a starting basis for the annual CEMPR by describing the programs whose implementation is to be reviewed. A second proposal is to revise AMCR 700-75³⁹ to be applicable to all major AMC installations, not just SPEED depots. In conjunction with this proposal the automation of both maintenance and PM procedures should be placed on the AMC schedule for all major installations. Automation of these procedures would eliminate much of the tedious and time-consuming paperwork involved, improve the timeliness and accuracy of record keeping and place all major AMC installations on the same basis with regard to maintenance and PM aspects of equipment management.

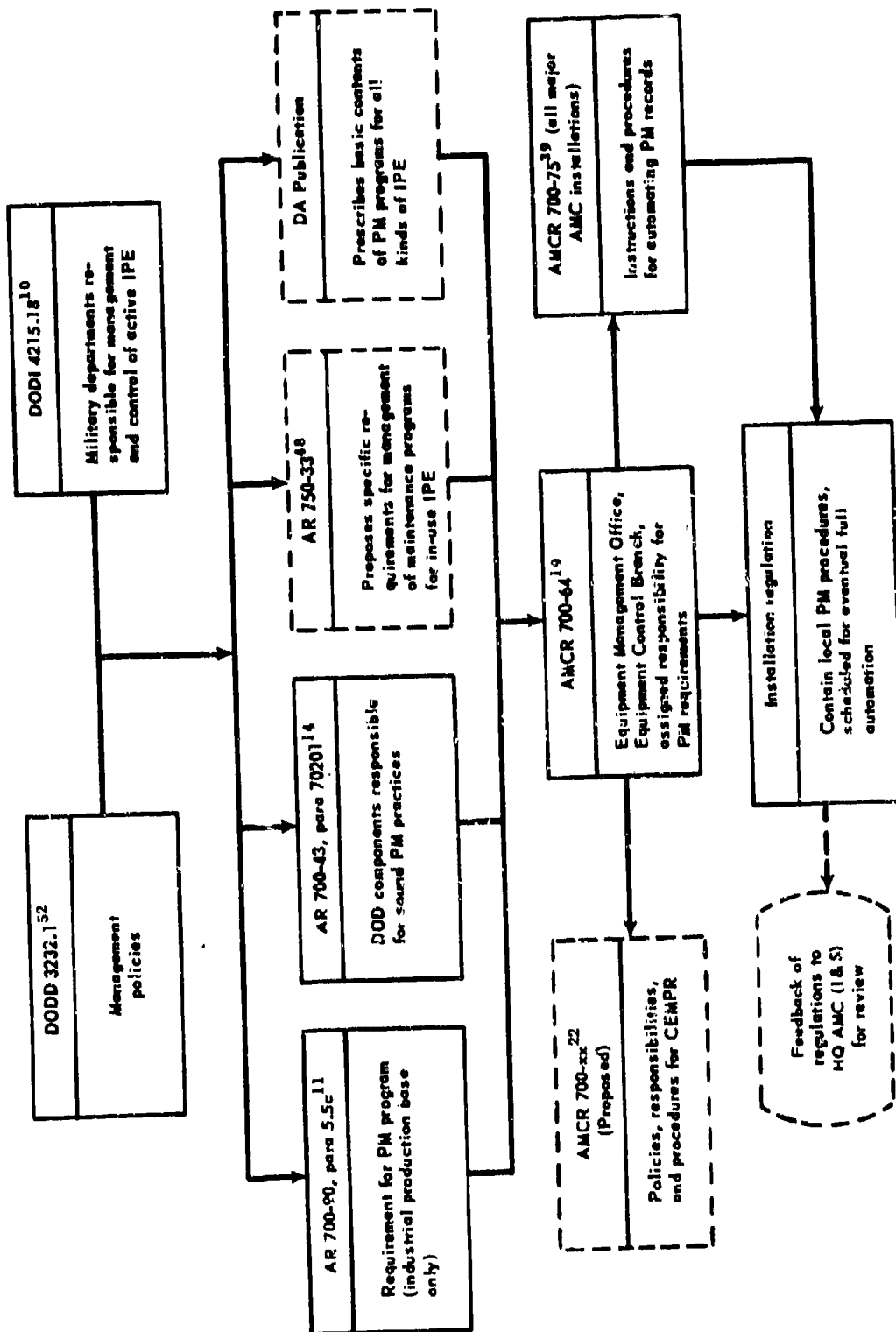


Fig. 33—Proposed System for PM of In-Use IPE at AMC Installations—Alternative 1

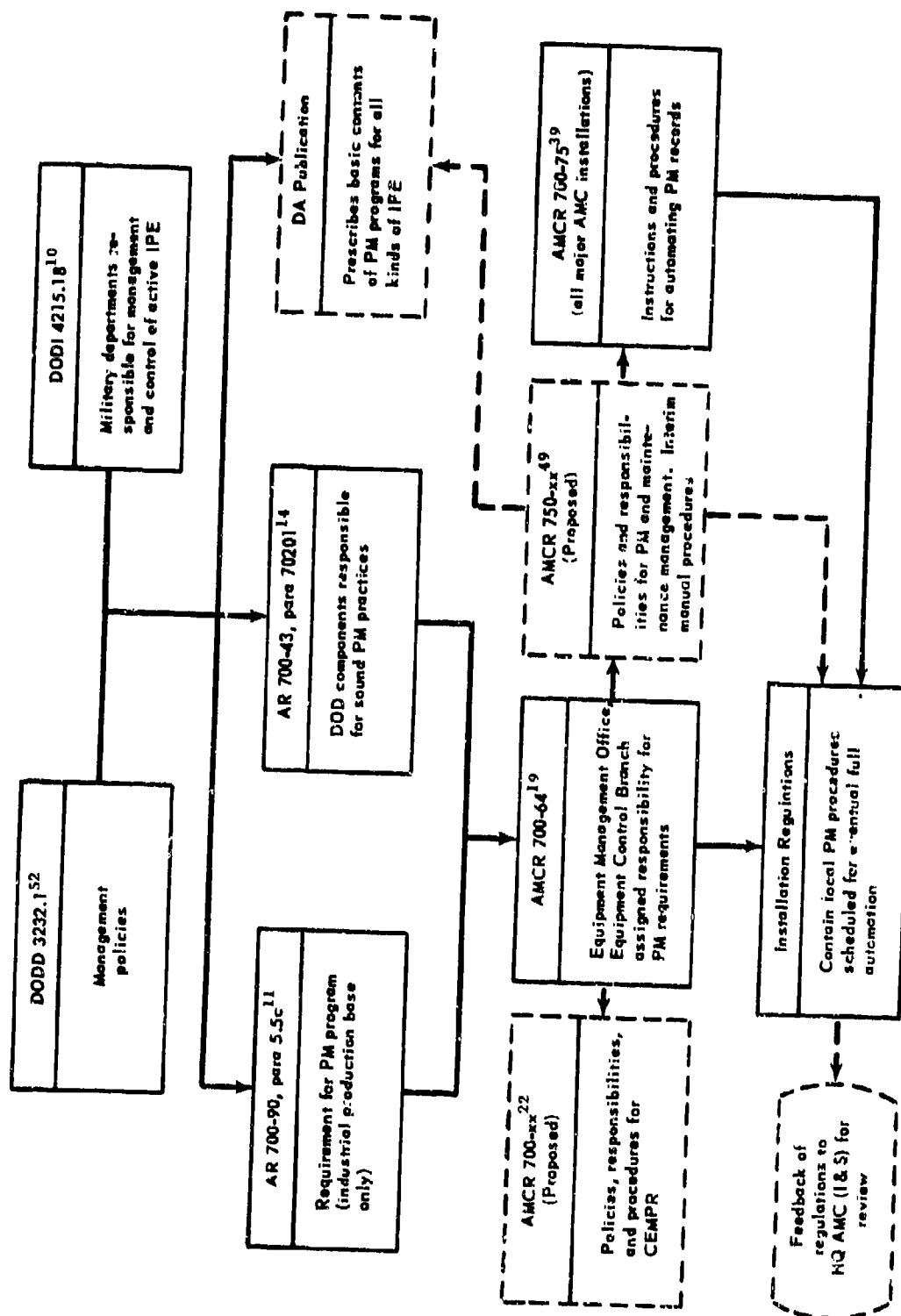


Fig. 34—Proposed System for PM of In-Use IPE at AMC Installations—Alternative 2

An additional proposal is that DA develop a publication in the 750 series, such as a technical bulletin, that would contain guidance for installation PM procedures for all types of IPE. This publication could incorporate the PM details currently included in the proposed AR 750-33⁴⁸ for metalworking equipment and would require the addition of guidance for nonmetalworking equipment. Such a publication would satisfy in part the implications of para 70201 of AR 700-43¹⁴ with regard to establishment of sound PM practices.

Of the two alternatives depicted in Figs. 33 and 34, if the Army chooses to retain an IPE publication at the AR level, Alternative 1 will be a desirable course of action. It is RAC's conclusion that the proposed AMCR 750-xx⁴⁹ would be necessary only to provide interim manual procedures until automation of the various installations is completed. It is also suggested that, in this case, AR 750-33⁴⁸ be published without the PM details (suggested for separate publication) and using the TM 38-750⁵⁴ maintenance and PM record forms rather than the new forms proposed. These conclusions were reached because PM details appear inappropriate for an AR, as previously discussed, and because the TM 38-750 forms appear to be adequate for the purpose intended, are already part of the Army maintenance system, and are already part of the prescribed procedures described in AMCR 700-75³⁹ for the automated system. To eliminate a current conflict, para 1-3.6 of TM 38-750 should be revised to strike out the exclusion of IPE.

If the Army chooses to eliminate the proposed AR 750-33 in favor of another regulation, such as AR 750-1,⁵⁰ then Alternative 2 would be the preferred course of action. In that case it is the study team's conclusion that the proposed AMCR 750-xx be issued in a form including the stronger language and coverage of AR 750-33, including the interim manual procedures for PM and maintenance, but without any of the PM details suggested for separate publication. As it presently stands, AMCR 750-xx is a sketchy document that would benefit considerably from an infusion of the wording of AR 750-33, assuming that the AR is not published.

Approval of Maintenance Expenditures at AMC Facilities

The proposed system is shown in Fig. 35. It shows a feedback of actual repair or rebuild costs to the estimators for comparison with cost estimates to determine if the problem is one of poor estimating. This proposal is the same as that made for contractor-operated facilities and again would be temporary until recognition or resolution of the problem. Again, the recording of actual repair costs for each item of IPE should be continued even after the need for a comparison with estimates is past. It has been suggested that such maintenance cost data be centrally recorded by DIPEC on files that would be made available to each service as desired. The study team believes that such central files would be very seldom used and that recording of maintenance costs should remain a local matter for each installation.

A second proposed action is to differentiate between a repair and a major repair and to have AR 700-43¹⁴ revised to require screening of DIPEC for major repair in addition to rebuild/overhaul. As previously noted under contractor-operated facilities, change 7 to AR 700-43¹⁴ is supposed to include recognition of major repair, and the proposed DODI will define it. An additional proposal is to reference in AR 700-43 the use of SB 9-226⁵⁷ to identify items of IPE that are not to be repaired.

The study team has also concluded that a control is needed when a failed item of IPE requiring major repair, rebuild, or overhaul is so urgently needed that there is not time to clear with DIPEC before making the repair. In this circumstance it is suggested that the reasons for the urgency be recorded and approved by the production manager, laboratory director, or equivalent at other installations, before making the repair. The approved reasons for the decision should then be filed with the maintenance record for the item for possible future reference.

Another proposal for improving the system would be applied when an installation has requested a replacement from DIPEC and none is available or replacements offered by DIPEC are not acceptable to the installation. In this situation it is suggested that DIPEC be asked to supply some additional information to assist the installation in deciding on a course of action among procuring a new item, borrowing from another

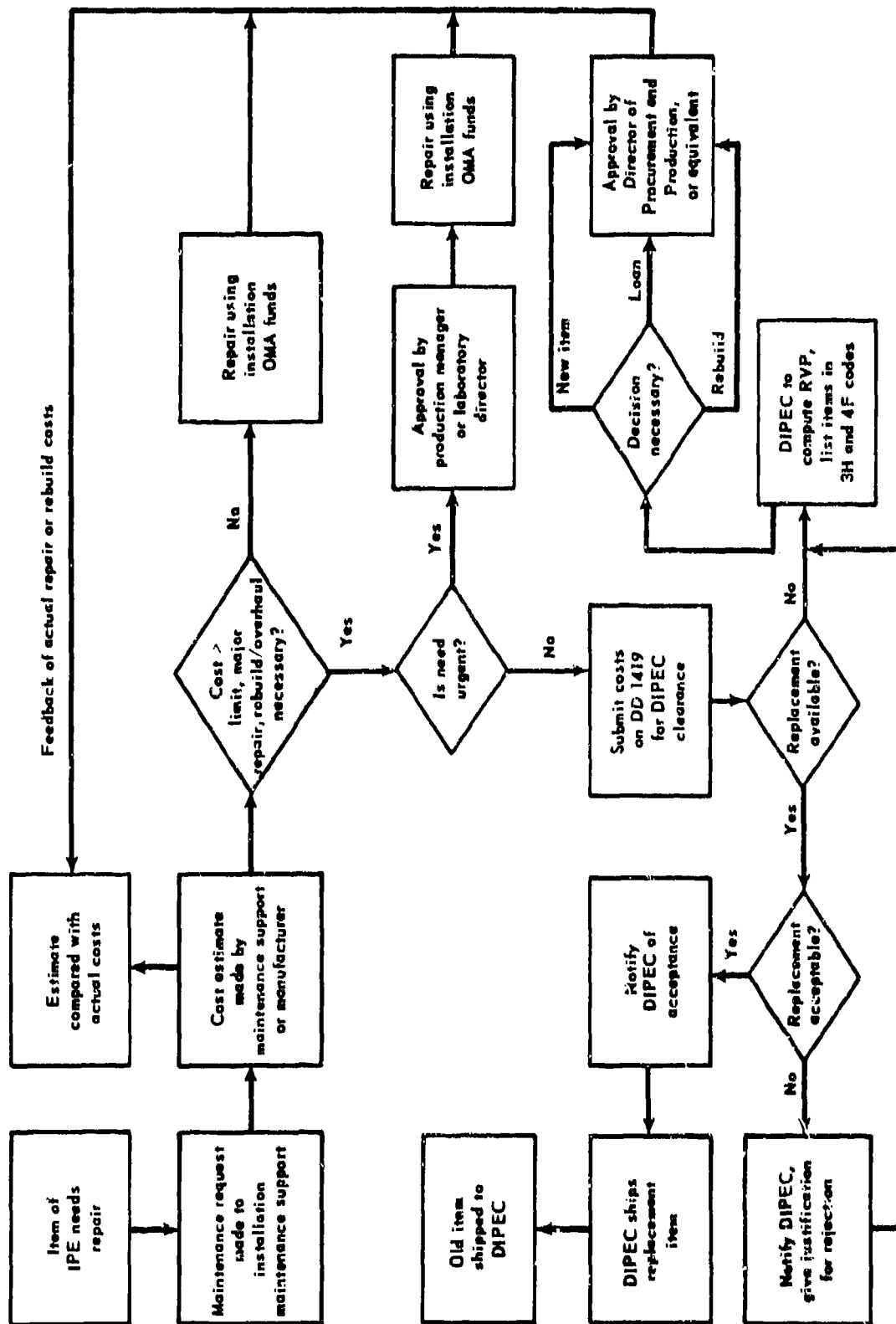


Fig. 35—Proposed System for Approval of IPE Maintenance Expenditures

installation, or rebuilding the failed item. DIPEC should be required to compute the reutilization value percentage (RVP) for the failed item, and to list similar items that are currently in Codes 3H and 4F in the DIPEC files. This information would establish the desirability of repairing the item and provide a source of possible loan candidates. The study team has concluded that when the decision to buy, loan, or rebuild has been made a further control is required to validate the decision. This control would be approval of the decision by the Director of I&S at AMC major subordinate commands or approval at an equivalent level at other installations.

With regard to the overall system for maintenance it is concluded that, as in the area of preventive maintenance, AMOR 700-75³⁹ should be revised to make it applicable to all major AMC installations and that the automation of maintenance record keeping at these installations be scheduled as rapidly as possible.

A final conclusion is that maintenance and PM practices at AMC installations will not be substantially improved until the status of the related draft publications at DOD, Army, and AMC levels is resolved and the directions to be followed at these installations become clarified.

SUMMARY

Two general problem areas were addressed, one pertaining to conditions leading to excessive expenditures for repair of in-use IPE, the second relating to deficient or nonexistent PM programs for IPE.

In reviewing these problem areas a distinction was made between policy and procedure as applied to contractor-operated facilities and to AMC-operated facilities. With respect to contractor-operated facilities the provisions of ASFR were noted to govern repair, rebuild, and overhaul. Criticism by auditing agencies in this environment was limited primarily to lack of control over repair, rebuild, and overhaul resulting in excessive costs for rehabilitation. The PCO was identified by RAC as the key individual for exerting the needed control. Another conclusion was the existence of a loophole in AR 700-43,¹⁴ namely, the current requirement to screen DIPEC when rebuild or overhaul of IPE is involved

but not when a major repair is involved. Several additional conclusions were made.

With respect to the two problem areas being addressed and their application to AMC-operated facilities, note was taken of the considerable degree of flux that currently exists with respect to pertinent DOD, DA, and AMC instructions or regulations. Some have been pending for as long as 2 years.

PM at AMC facilities is governed through various AMCRs within the AMC Equipment Management Program with the Directorate of I&S as the proponent. Currently no effective control exists to ensure that AMC facilities have instituted a preventive maintenance program in accordance with AMCR 700-64.¹⁹

With respect to the problem of excessive IPE maintenance costs at AMC-operated facilities, specific manifestations of this problem included uneconomical repairs or incurring expenditures above the limit of 50 percent of acquisition cost, not clearing with DIPEC prior to incurring such costs, and related poor record keeping.

Tables 12 and 13 summarize the system changes that are proposed to alleviate or eliminate the major IPE maintenance problems being addressed in contractor-operated and AMC-operated facilities, respectively.

Table 12
SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO MAINTENANCE
PROBLEMS IN CONTRACTOR-OPERATED FACILITIES

Topic addressed	Proposed system changes
Excessive cost for rehabilitation of Government-owned IPE	<p>(a) Change 7 to AR 700-43⁴ should ensure that clearance is obtained from DIPEC before a major repair is made</p> <p>(b) The term "major repair," however, must be defined; acquisition cost rather than replacement cost should be the baseline employed in such a definition</p> <p>(c) A change to AR 750-27⁵⁶ is needed to provide that IPE is excluded from its coverage; the result will be to remove a current conflict with AR 37-100-72⁴⁶</p> <p>(d) Approval by the head of the procurement activity at the major subordinate command is needed in addition to that of the PCO when it is necessary to exceed maintenance expenditure limits</p> <p>(e) When such approval is given to exceed expenditure limits, a record of this action should be provided to the PA</p> <p>(f) At least on a temporary basis, a periodic comparison should be made of estimated and actual maintenance costs to ascertain if poor estimates are a contributing cause to this problem</p> <p>(g) A local record should be kept of actual repair costs for each item of IPE</p>

Table 13

**SUMMARY OF PROPOSED SYSTEM CHANGES RELATING TO MAINTENANCE
PROBLEMS IN AMC-OPERATED FACILITIES**

Topic addressed	Proposed system changes
(a) Deficient to nonexistent PM programs	<p>(a) (1) Two alternatives are provided to deal with the present condition of a regulation pending at the DA level that conflicts with a current AMCR</p> <p>(2) Each AMC activity provides the Directorate of I&S, HQ AMC with a copy of the activity's PM and maintenance programs</p> <p>(3) PM and maintenance programs at all major AMC activities should be scheduled for automation</p> <p>(4) DA should develop a publication for installation of PM procedures for all types of IPE</p> <p>(5) Paragraph 1-3.6 of TM 38-750⁵⁴ should be revised to strike out the exclusion of IPE</p>
(b) Excessive maintenance expenditures for IPE	<p>(b) (1) At least on a temporary basis, a periodic comparison should be made of estimates and actual maintenance costs to ascertain if poor estimates are a contributing cause to this problem</p> <p>(2) A local record should be kept of actual repair costs for each item of IPE</p> <p>(3) Approval by the production manager, laboratory director, or equivalent key manager should be required when costs for repair, rebuild, or overhaul are expected to exceed expenditure limitations</p> <p>(4) When approval is given to exceed expenditure limits, a record of this action should be provided the activity's equipment manager</p> <p>(5) When a suitable replacement is not available from DIFEC, DIFEC should compute the RVP for the item in question and list similar items in codes 3H and 4F in Army-coded accounts in the DIFEC file</p> <p>(6) PM and maintenance programs at all major AMC activities should be scheduled for automation</p> <p>(7) The status of related draft publications at DOD, DA, and AMC levels should be resolved expeditiously</p> <p>(8) Proposed system changes a, b, c, f, and g in Table 12 would apply here also</p>

Chapter 7
MANAGEMENT OF INDUSTRIAL PLANT EQUIPMENT
AND EQUIPMENT MANAGEMENT

NATURE OF PROBLEM/CRITICISMS

An additional problem was assigned to the RAC study team by the Chief of Staff, HQ AMC.⁵⁸ The Chief of Staff basically was interested in examining the possible organization alternatives within AMC that would permit the integration and control of all IPE activities under a single management. RAC was instructed to pay particular attention to the question of consolidating all IPE activities under ISA or the Production Equipment Agency, both physically located at Rock Island, Ill.

The basis of this problem is to be found in the AAA report of November 1969 which stated:

d. Decentralizations of the Army's management of IPE was a factor in many of the problem areas noted during the audit. No single organization or activity served as the focal point for overall Army management policies, procedures and supervision. Prior to the creation of DIPEC, the Army centralized most IPE management responsibilities in the U. S. Army Production Equipment Agency (PEQUA). With DIPEC's formation, PEQUA retained responsibility only for technical advice and assistance in the IPE area; the Army's management responsibilities were vested separately among the individual major and subordinate commands and activities. Although possessing about 93 percent* of the Army's IPE, the U. S. Army Materiel Command's (USAMC's) management responsibilities were decentralized among its Headquarters directorates, the offices within these directorates and, in turn, to the various subordinate commands and activities (Ref 5b, para 2d).

The RAC study team found the condition of decentralization described by the AAA to be quite accurate. This quotation is examined in more

*Study team analysis of DIPEC reports revealed 97 percent to be the current figure.

detail later in this chapter. However, the conditions described above were not cited in any of the other reports that were the basis for isolation of critical or major IPE management problems such as those addressed in the last five chapters. Although the AAA report contained the above statement, it was not presented in the nature of a problem requiring specific corrective action. However, the RAC study team considers the relatively high degree of decentralization of IPE management together with a marked scarcity of feedback on system performance to be contributing causes of many of the problems treated in the document. Further, the RAC study team considers the resolution of both of these problems to be fundamental to any short- or long-term resolution of the types of problem addressed in the preceding chapters.

In addressing this subject area the study team pursued a course of first examining the structure internal to the Army under which IPE is managed, with particular attention being given to the AMC organizational structure. A review was made of the Air Force and Navy organizational structures, in similar fashion. In performing this review it quickly became apparent that IPE and capital equipment in general was managed radically differently among the three services. It also was recognized that in order to cope with the problem concerning the most feasible organization structure through which to manage IPE, one had to address the broader questions of organizational missions and equipment management.

ARMY ORGANIZATIONAL STRUCTURE FOR MANAGING IPE

Figure 5 (repeated here for the reader's convenience) portrays the principal activities within DA that participate actively in some function of IPE management. At the DA level the only activity the study team could identify as actively participating in IPE management functions was within the Deputy Chief of Staff Logistics area. This office had been promulgating policy on IPE management as it related to the Industrial Preparedness Program. However, such policy only affects the arsenals and contractor facilities at the AMC level, and has no impact on AMC facilities such as laboratories, maintenance depots, proving grounds, etc.

Before addressing the elements within AMC that are concerned directly with IPE management, a distinction was made so that several management tasks

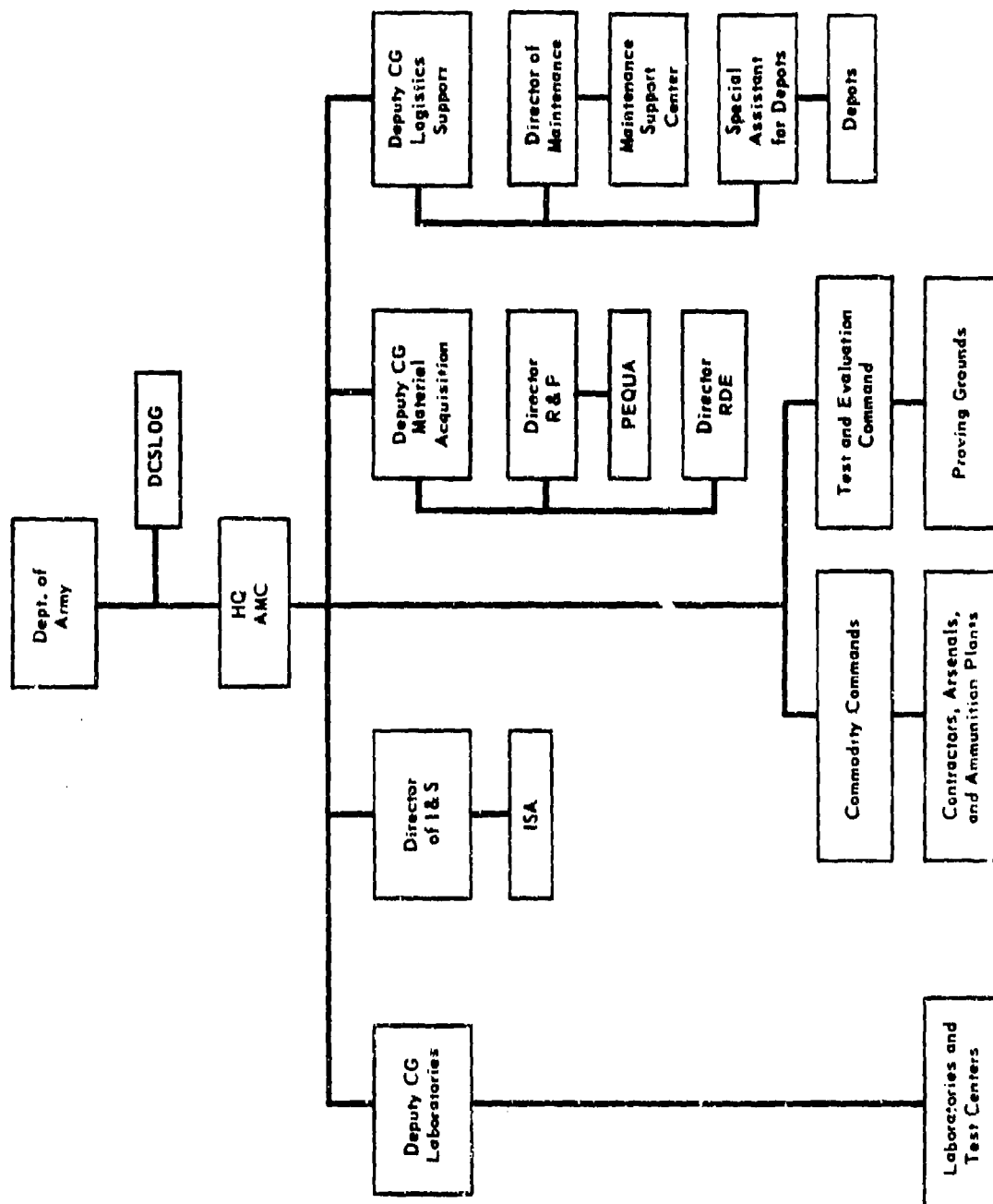


Fig. 5—(Repeated for the reader's convenience)

could be recognized: planning, programming, and budgeting (PPB); the promulgation of policy, particularly that relating to the use of capital equipment needed to perform against approved PPB; executing against the approved PPB; and controlling so as to ensure that the manner of execution is in conformance with what was planned, programmed, and budgeted.

Control of the PPB aspects of IPE management rests at the HQ AMC level with three principal directorates: The Directorate of R&P, which has responsibility for the PEMA funds; the Directorate of RDE, responsible for RDTE funds; and finally, the Directorate of Maintenance, which has responsibility for OMA funds. Each of these three types of funds tends to relate primarily to one or at the most two types of AMC facility. Arsenals are the main users of PEMA-funded IPE; the depots are the main users of OMA-funded IPE; and the laboratories and proving grounds/test centers are the main users of RDTE-funded IPE. Since PEMA funds are used to obtain all the IPE associated with the ammunition plants, arsenals, and contractor-operated facilities as well as a portion of the IPE used by maintenance depots, the Directorate of R&P has tended to dominate IPE matters within HQ AMC.

With respect to proposed policies that relate to (a) IPE management and (b) the ability to execute against current or future programs, the directorates controlling the funds are the ones who propose, review, and/or approve the proposed policy. In the case of proposed policies affecting IPE in laboratories and proving grounds/test centers, the Deputy of Laboratories and TECOM have review and approval authority.

Neither the Directorate of R&P, RDE, nor Maintenance has line control of the activities that are users of IPE. The Deputy of Laboratories has cognizance over the laboratories, and the Test and Evaluation Command over the proving grounds/test centers, not the Directorate of RDE. The Special Assistant for Depots has cognizance over the depots, not the Directorate of Maintenance. The commodity commands that govern the arsenals, report to the Offices of the Commanding General/Deputy Commanding General, HQ AMC.

It is worth noting that within the Directorate of R&P two divisions participate actively in IPE management. The Procurement Policy Division concentrates on policy matters relating to, among other things, IPE

management in the contractor environment. The Industrial Preparedness Division, among other things, is responsible for consolidating for PPB purposes PEPA-funded equipment requirements, including IPE, but excluding PEPA-funded IPE to be used in maintenance depots.

The emphasis for the three Directorates described above is on broad PPB and control. When IPE is addressed by them, it is generally subsumed under an important program such as modernization and replacement, manufacturing methods and technology, facilities layout, etc.

PEQUA is a Class II activity that reports to the Directorate of R&P, HQ AMC. The primary mission of this activity is to:

- a. Serve as the central point of contact within AMC for engineering and technical assistance and consultative services to all elements of AMC concerned in the investigation and utilization of new and improved manufacturing techniques, processes, and equipment under the AMC Manufacturing Technology Program.
- b. Maintain and promote within AMC knowledge of the latest manufacturing trends, technology, and equipment.
- c. Serve as the central agency for providing technical coordination and assistance to all DA commands, installations, and activities in the management of production equipment and other IPE.
- d. Provide the focal point within AMC for the machine tool industry, technical associations, other industrial organizations, and knowledgeable personnel of Government departments and agencies to propose new techniques and processes for evaluation relative to applicability in the production of military materiel (Ref 59, p 3).

PEQUA is largely limited to those activities falling within the Industrial Preparedness Program. This would encompass approximately 80 percent of all active and layaway IPE under the control of AMC. PEQUA consists of a staff of approximately 31 persons, 65 percent of whom are engineers and technical specialists. These personnel are concerned primarily with the coordination and evaluation of proposed layaway programs, modernization programs, and manufacturing methods and technology programs, all related to the broader industrial preparedness program. Although PEQUA had participated in a number of modernization studies relating to maintenance depots, this function has effectively been transferred to the Maintenance Support Center.

ISA is also a Class II activity. This agency reports to the Directorate of I&S, HQ AMC. ISA's mission is:

a. To serve as the technical arm of the Directorate, I&S HQ AMC.

b. To provide engineering assistance and consultive services to all elements of AMC in the management of communications facilities and physical plants of AMC and logistical support services incident to the operation of AMC installations and activities (Ref 60, p 3).

Of particular interest to this study is the prime function of the Equipment Management Branch of this agency:

Provide operational management and evaluation of equipment management programs at all AMC installations and activities. The areas of interest include, but will not be limited to, operation, maintenance, utilization, modernization, redistribution, repair, replacement, inspection and calibration of installation equipment, processing Tables of Distribution and Allowances, and approving requests for equipment in excess of authorized allowances (Ref 60, p 24).

This agency is authorized approximately 114 personnel, 51 percent of whom are engineers, scientists, and technical specialists. The degree of expertise in production equipment matters is much less than in PEQUA. The AMC Equipment Management Program will be discussed in greater detail shortly. It is to be noted that in describing the mission of ISA a reasonably accurate description has been given of the scope of the staff responsibilities of the parent Directorate of I&S, HQ AMC.

AIR FORCE/NAVY ORGANIZATIONAL STRUCTURES FOR MANAGING IPE

Air Force Structure

Figure 36 highlights the principal organizational elements within the Air Force relating to IPE management. There is a pronounced dichotomy within this service with respect to its types of activity. At the Department of Air Force level, DCS R&D is concerned with contractual effort (e.g., COCO and GOCO), as well as those Air Force military activities engaged in R&D. DCS, Systems & Logistics (DSC Sys & Log), is concerned with all other Air Force facilities. The counterpart of the DCS R&D at

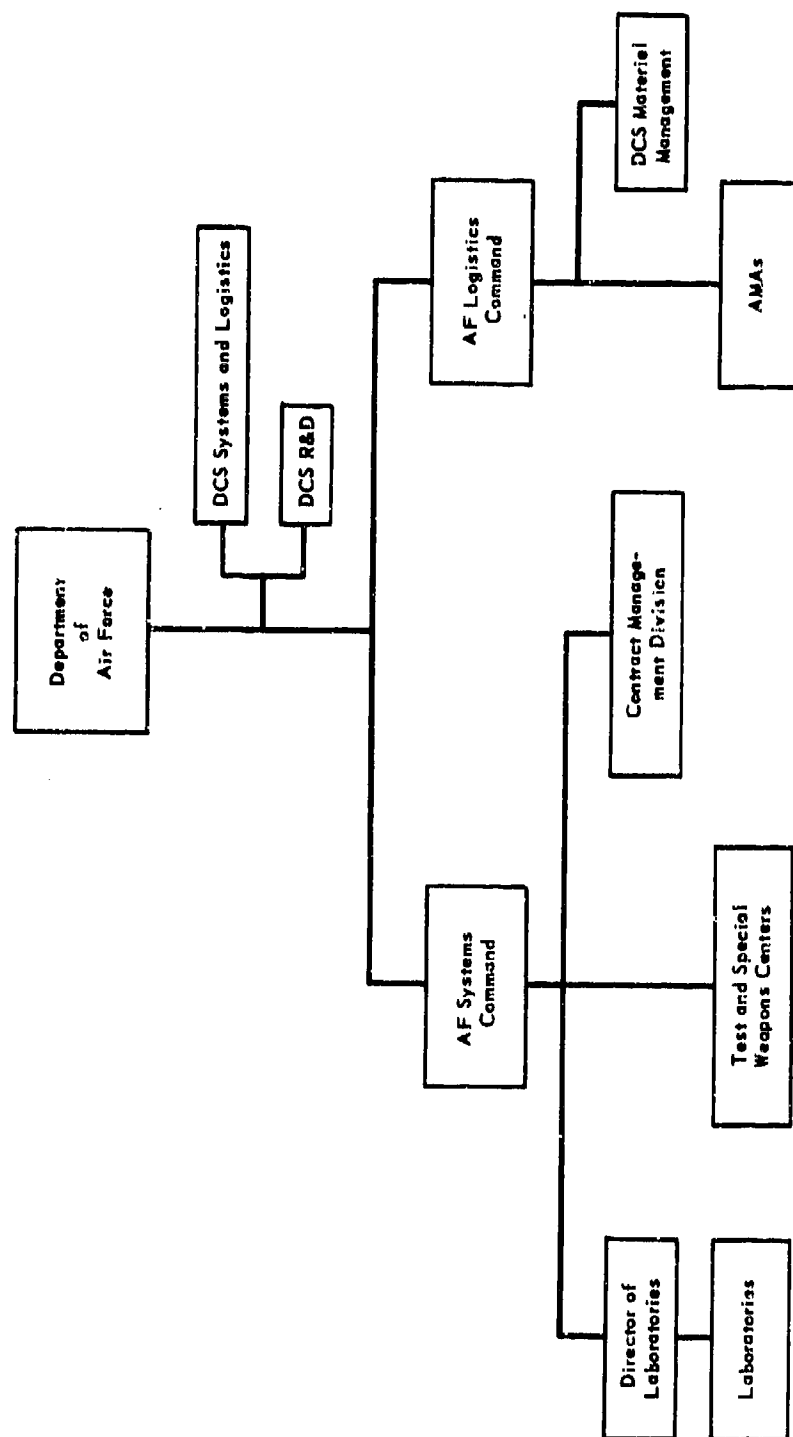


Fig. 36—Air Force Organizational Structure Pertaining to IPE Management

the next level down is the AF Systems Command, which controls in a line capacity the test and special weapons centers, the laboratories, and the management of contracts relating to R&D as well as production efforts.

The AF Logistics Command is the counterpart of the DCS Sys & Log. This command controls the AMAs which are somewhat analogous to the Army's commodity commands minus their R&D missions. At Headquarters, AF Logistics Command, the Directorate of Materiel Requirements under the DCS Materiel Management plays a key role in equipment management. As was pointed out in an earlier chapter, the Air Force does not report in-use IPE to DIPEC. Thus, AFEMS includes IPE within it, along with all other nonexpendable equipment with a unit cost of \$40 or more. AFEMS will shortly be compared with the Army's Equipment Management Program.

Navy Structure

Figure 37 represents still another markedly different organizational structure—the Navy's. Although there exists at the Department of the Navy staff level the office of the Deputy Chief of Naval Operations (Logistics), this office does not concern itself with IPE, per se.

The AMC counterpart within the Navy is the Naval Material Command. At the staff level within this command there is a dichotomy that is similar in degree of differentiation to that of the Air Force. IPE in the hands of contractors is administered through the Contracts Administration Division of the Deputy Chief of Naval Material-Procurement and Production, but IPE in Naval facilities is controlled by the Directorate of Installations and Industrial Resources under the Deputy Chief of Naval Material Logistic Support. The various system commands—the closest Navy counterpart to the Army's commodity commands—perform in a line capacity to the Chief of Naval Material. The biggest users of IPE within the Navy are reported to be the Air Systems Command, the Ordnance Systems Command, and the Ship Systems Command. Only the broadest guidance is disseminated from the DCNM level. Each systems command is organized uniquely and interprets the DCNM policy and guidance for application to the facilities under its control. The Naval laboratories are controlled by the Director of Navy Laboratories under the DCNM For Development.

Although not represented on Fig. 39, the Comptroller's Office at the

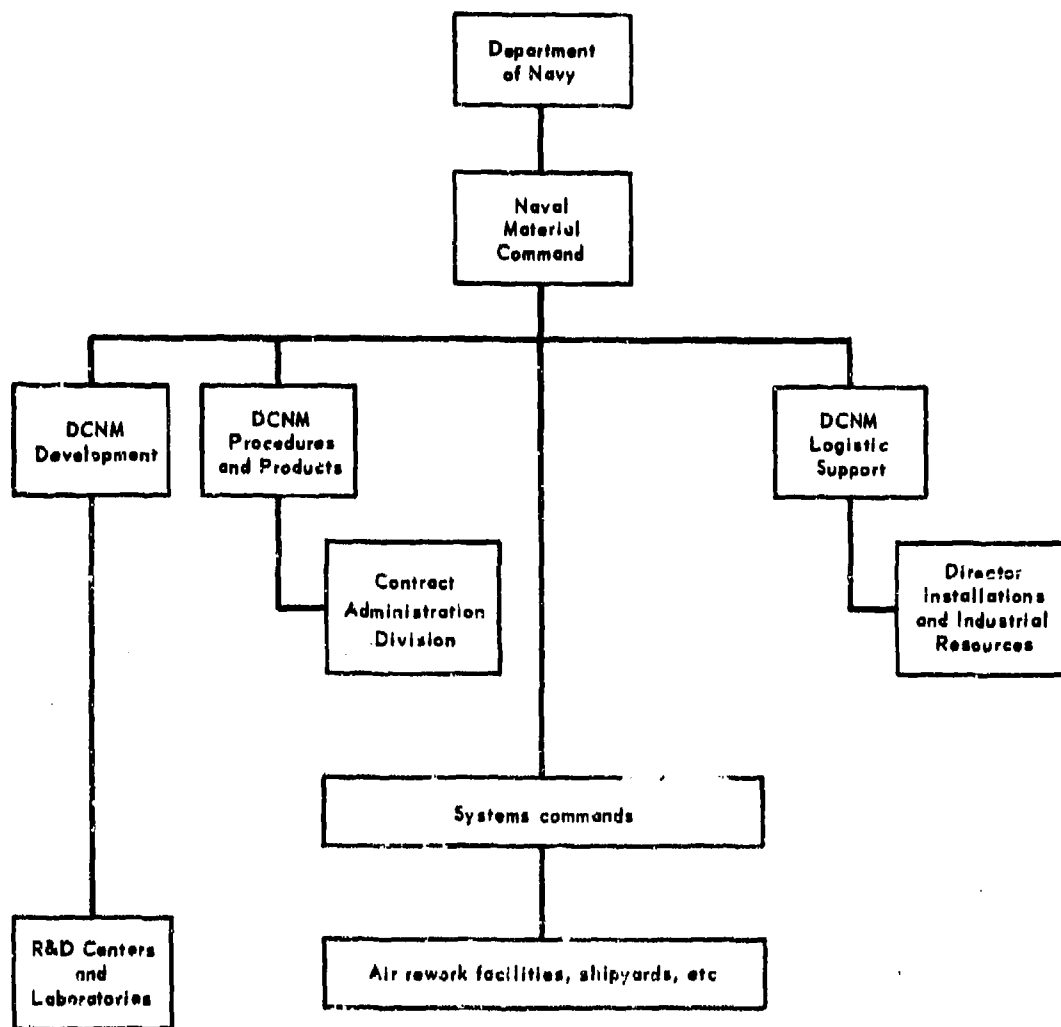


Fig. 37—Navy Organizational Structure Pertaining to IPE Management

Secretary of the Navy's level, as well as the various fiscal offices at each level within the Navy, participates in the management of IPE. The Comptroller is the proponent of the Naval Comptroller's Manual (NAVCOMPMAN),¹⁷ which will be treated further when the Navy's equipment management system is described.

EQUIPMENT MANAGEMENT SYSTEMS—ARMY/AIR FORCE/NAVY

In examining the subject of equipment management systems, the RAC study team wished to determine to what extent IPE was managed as a separate group of equipment. This line of inquiry was largely dictated by the fact that the study team was not convinced that a separation of IPE management from other equipment management as implied by the Chief of Staff's directive is the most effective way to manage IPE.

The Army Equipment Management Program

Equipment In-Use at AMC Military Facilities. As the AAA report has indicated, the Army does not have a focal point at the DA level from which policy emanates on the subject of IPE management. The same holds true for equipment in general. Although DCSLOG has published AR 700-90¹¹ which addresses certain aspects of IPE management, the regulation is limited in application to the Industrial Preparedness Program. Army regulations relating to various aspects of equipment management, e.g., authorizations, property accounting, utilization, maintenance, disposal, etc., exist in profuse numbers but their proponents are located throughout DA staff.

However within the AMC, The Directorate of Installations and Services has responsibility for maintaining an Equipment Management Program. This program has existed almost since the inception of AMC itself. The program is directed at the effective management of all installation equipment at all AMC major subordinate commands and all separate installations and activities reporting directly to HQ AMC. The term installation equipment is described as:

...All nonexpendable equipment other than real property, fixed plant communication equipment, and non-appropriated fund property in use by an installation or activity to accomplish or support an assigned mission.

IE includes all equipment requiring authorization under the installation or activity TDA or other applicable equipment procurement or acquisition authority (Ref 13, p 1).

The Equipment Management Program specifically encompasses responsibility for major aspects of the following processes: authorization, acquisition, utilization, redistribution, modernization, maintenance, disposition, and property book accountability. However, the program is directed at in-use equipment, and related in no way, for example, to equipment in layaway lines. In addition, the Equipment Management Program relates only to in-use equipment in military-operated facilities.

An extremely important feature of the Equipment Management Program is that an organizational concept accompanies it. AMC direction provides that centralized control over the execution of this program will exist at each AMC activity and installation, and this control will be exercised by the equipment manager. In the case of the AMC depots, DA Pamphlet 570-566, "Staffing Guide for U.S. Army Depots,"⁶¹ provides a suggested organization structure for carrying out the directive on centralized control of the Equipment Management Program. Figure 38 has been extracted from this pamphlet.

The Rock Island Arsenal was in the process of instituting an organizational change during one of the study visits to that activity. Although the Equipment Management Program had existed for years, and the title Equipment Manager had been assigned to an individual, this arsenal had never established an organizational entity to effectively carry out the spirit of the program. An Equipment Management Branch was established at the arsenal in December 1970 (Fig. 39). Its functions are as follows:

- (1) To assure that sufficient serviceable equipment is available; that minimum equipment inventories are maintained; that equipment is maintained in the most economical manner; that equipment is operated at lowest cost; that economic repair is made of unserviceable economically repairable equipment; that excess equipment is properly condition coded; and that calibration is made of test and measuring equipment.
- (2) To maintain the arsenal's TDA for all installation equipment.
- (3) To manage the IPE program by providing guidance to operating divisions for controlling acquisitions, retentions, and disposals.
- (4) To develop programs for disposal of tools, dies, etc.
- (5) To obtain approval for capital equipment in TDA.
- (6) To perform command inspections of the installation property book.

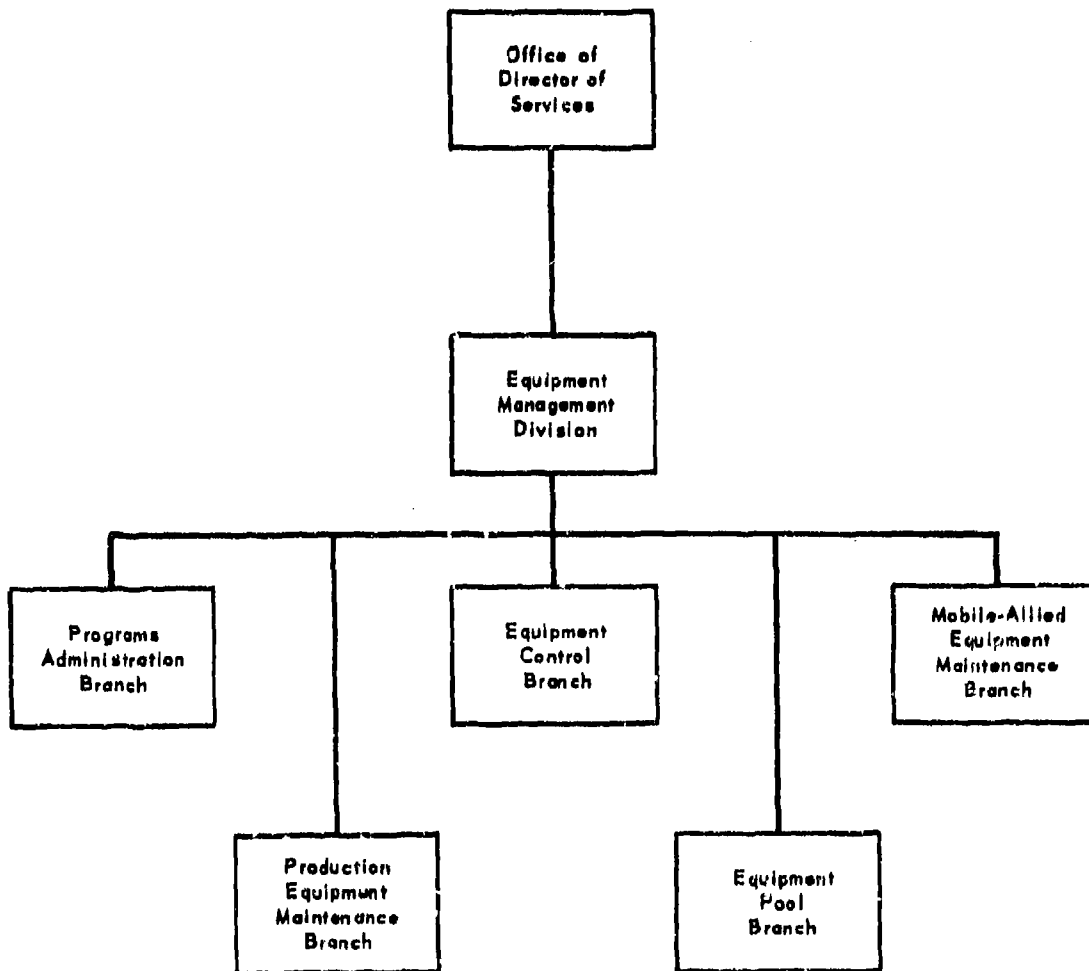


Fig. 38—Proposed Organization for Army Depot Equipment Management Program

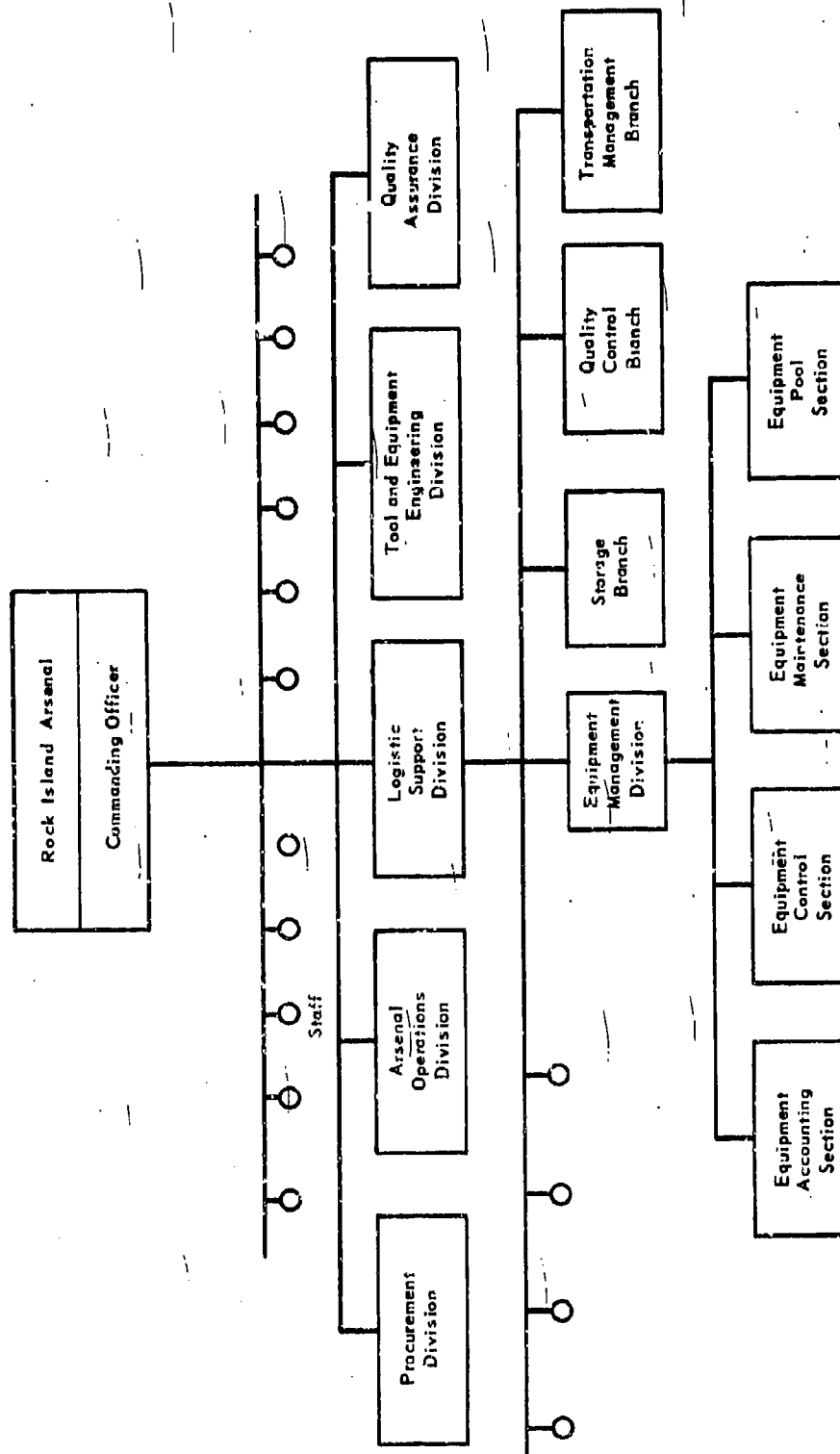


Fig. 39—Rock Island Arsenal Organizational Structure: Equipment Management Branch

- (7) To maintain TAMMS system for installation equipment.
- (8) To coordinate plans and management data for the preparation of OMA and FEMA budget estimates, forecasts, and projections for installation equipment and industrial plant equipment.
- (9) To administer approved funded cost programs.

Figure 40 is the organizational structure the Directorate of I&S, HQ AMC, suggests AMC activities adopt internal to their organizations. The depots and Rock Island structure both conform closely to this suggested form.

In summary, although not all AMC activities have established organizational elements with the responsibility for controlling the Equipment Management Program, the concept already exists within AMC for controlling the large majority of the processes that are a part of a comprehensive in-use capital equipment management program, including IPE.

In reviewing the AMC Equipment Management program the RAC study team observed a number of shortcomings including the following:

- (1) In its application the program fails to distinguish any relative degree of importance among a vast array of equipment.
- (2) There is a myriad of AMC regulations each treating relatively small portions of the program.
- (3) There is a strong tendency in the program to emphasize control of equipment in TDA and TOE only. (Much IPE, particularly in the arsenals, is not carried on such documents.)

Until the past few months the program failed to emphasize the singular nature of IPE as a part of installation equipment. A number of steps have been taken by the Directorate of I&S in attempts to correct this situation.

Government-Owned Equipment In Use at Contractor Plants. In the contractor environment the ASPR governs almost exclusively as far as any Government-owned equipment management program is concerned. This subject has been covered repeatedly in earlier chapters and will not be repeated here. At the present time there are discussions being carried on between representatives of the Directorates of I&S and R&P, HQ AMC, and ACSFOR concerning the requirement in para 2-40 of AR 310-49³² to document certain GOCO equipment in a TDA. The equipment manager at the AMC major

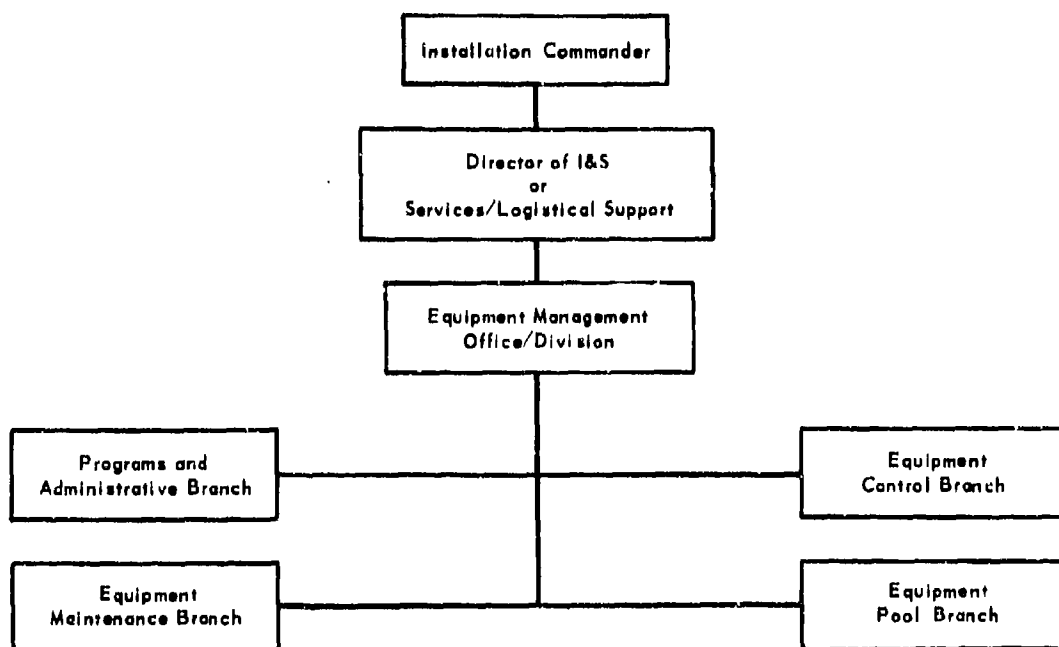


Fig. 40—Directorate I&S, HQ AMC, Suggested Equipment Management Organizational Structure for Operating Activities

subordinate command letting the contract would have the responsibility to ensure that this provision is carried out. But by reason of the terms of ASPR and the contract, that is the farthest extent to which he could effectively operate.

Inactive Equipment. Within AMC, inactive organizational equipment, other than that in the military supply system or in the process of being transferred out of the Army system or disposed of, is almost invariably associated with layaway lines. Layaway lines are comprised of both IPE as well as sizable amounts of non-IPE. Chapter 2 of this document reveals how the management of layaway lines at the HQ AMC level and higher levels tends to emphasize only the IPE portion of the line because the DOD certification/recertification process emphasizes only the IPE portion.

Layaway lines exist not only in AMC facilities such as arsenals, but in contractor-operated plants as well. Layaway lines stored in AMC facilities are officially accounted for under the property accountability system of the facility in which stored. Under the concept of the Equipment Management Program, if carried out as intended, the equipment manager would be the property accountable officer.

Layaway lines stored at contractor-operated plants are covered by a so-called "storage contract." The terms of the contract, rather than the terms of ASPR, govern what the contractor is to do with respect to the stored IPE and non-IPE.

The Air Force Equipment Management System

Through AFEMS, which is administered by AFLC, the Air Force has achieved a uniform program, both as to concept and organization for the management of its organizational in-use equipment base. AFEMS centers around the concept of controlling all organizational nonexpendable equipment worldwide through AFLC, exclusive of equipment in the hands of contractors.

AFEMS includes the following aspects of equipment management: allowances, authorizations, accountability and responsibility from receipt through transfer, reporting of equipment authorized and on hand, requirements computation, utilization, quality control, and redistribution.

In a fashion comparable to the structure that accompanies the AMC Equipment Management Program, a rigid organizational concept has been

instituted to carry out AFEMS. This structure extends from the AFLC level down to the base level. At the major command level there is a Command Equipment Management Office (CEMO), and at the base level, there is a REMO. Figure 41 illustrates this relation. Unlike the Army, the Air Force has publicized its worldwide equipment management system in a single document, AFM 67-1, Vol IV.²⁷ However, this manual limits its recognition of IPE to three subparagraphs governing code identification of IPE in the AFEMS records, instructions on requisitioning DIPEC for IPE, and instructions on reporting excess IPE to DIPEC (Ref 27, p 18-8).

Since the concept of layaway lines has only recently been adopted by the Air Force no effort was made to determine their method of managing the equipment contained therein.

The Navy Equipment Management System

The Navy's concept of equipment management consists of controlling all Navy equipment worldwide through the "Comptroller's Manual" (NAVCOMPAN).¹⁷ Chapter 6 of this manual identifies four classes as encompassing all Navy property:

Property Class 1	Land
Property Class 2	Buildings, Structures, and Utilities
Property Class 3	Equipment Other than Industrial Plant Equipment
Property Class 4	Industrial Plant Equipment

The Navy is the only service that requires that IPE be identified in such a relatively precise fashion. The manual further requires the DD 1342 be used as the property accountable record for not only property class 4 but property class 3 as well. This undoubtedly was of benefit to the Navy in recent years when DOD was instrumental in having some new Federal supply classes added and some deleted in the definition of IPE.

Within the "Naval Comptroller's Manual," Chapter 6, there is also contained the majority of stipulations governing the requirements for reporting to DIPEC. Although DSAM 4215.1¹⁴ has been published as a tri-service document, the Navy has seen fit to repeat much of this regulation in its NAVCOMPAN. With respect to IPE management, the RAC study team found this manual to be the most concise and clearly worded of the regulatory documents of all three services on the subject of IPE management.



The Navy Comptroller's Manual is more restricted in its scope as far as a comprehensive equipment management program is concerned. The principal processes covered under this manual are: acquisition, accountability and responsibility, reporting, physical inventory, identification of IPE, and IPE requirements determination. Outside these function, e.g., maintenance, utilization, administration of approved funded cost programs, etc, responsibilities are fragmented among different activities. There is no uniform structure at the system command level in administering a broad program of equipment management. At the activity or installation level, the "Comptroller's Manual" is generally administered by the Supply and Fiscal Department.

In discussions with personnel at the systems command level of the Navy who had responsibility for equipment management, it was revealed that areas not encompassed by the NAVCOMFMAN were satisfied by a variety of lettertype instructions to the field.

CONSIDERATIONS IN ATTEMPTING TO INTEGRATE ALL IPE ACTIVITIES UNDER SINGLE MANAGEMENT

(a) Taken literally, integration of all IPE activities under a single management would entail a consolidation of planning, programming and budgeting as presently performed for FEMA, RDT&E, and OMA funds. Figure 42 identifies the various budget project account and/or subaccount codes used to authorize procurement of IPE. The judgment must be made as to whether the estimated return benefit would be worth the estimated cost of such a move, assuming it were practical to attempt to do so.

(b) Such integration implies the consolidation in one area for purposes of equipment management of

(1) IPE, active and in layaway lines, in contractor-operated facilities.

(2) IPE, active and in layaway lines, in Government-operated facilities.

Since equipment management in each area is governed by an almost entirely different set of regulations, e.g., DOD/DA/AMC/major subordinate command/and installation regulations compared with DOD/DSA/DCAS/contractor regulations and procedures, a major upheaval of personnel and established

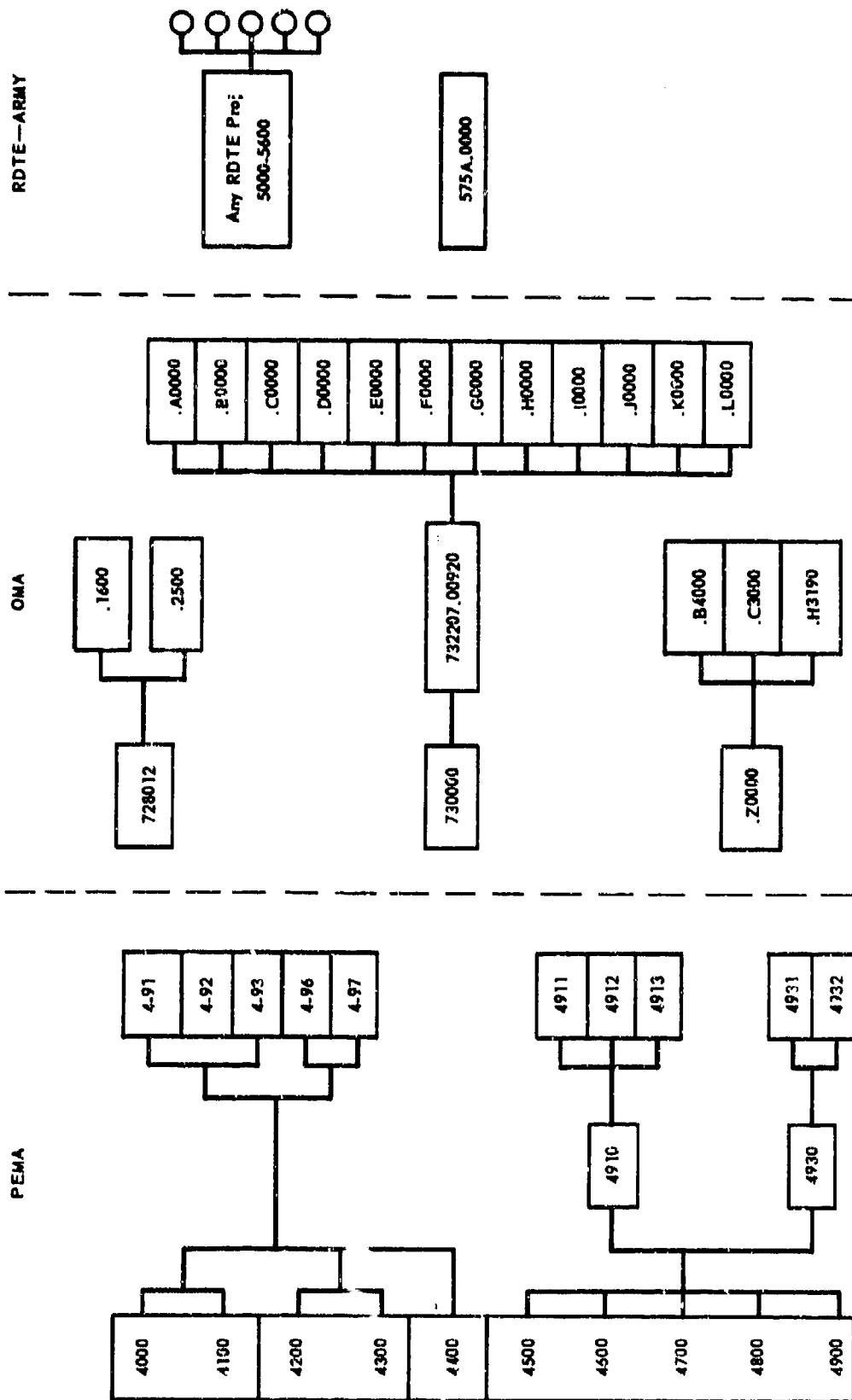


Fig. 42—Army Budget Account Codes Authorizing IPE Procurement

lines of communications would have to take place. Again, the question must be answered, is the estimated cost of such a move likely to result in an equal or greater benefit?

(c) Since equipment modernization programs exist in all four types of facility, i.e., maintenance depots, arsenals, laboratories, and proving grounds/test centers, integration as proposed in the Chief of Staff memorandum implies the consolidation of modernization missions currently scattered among PEQUA, the Maintenance Support Center, the Deputy for Laboratories, and the Directorate of RDE. Is it possible to remove such a critical function from the organizational environment directing the overall mission, and not degrade the quality of the modernization program or increase the difficulty in formulating such a program?

(d) The RAC study team found no difficulty in either the Air Force or Navy in identifying organizational elements responsible for IFE management once it was made clear whether a contractor or military facility was involved.

(e) The AAA criticisms cited on the first page of this chapter deserve closer scrutiny:

(1) Regarding the point that no single organization or activity served as the focal point for overall Army management policies, procedures, and supervision: no evidence was presented by the AAA to show how this would be achieved, nor was there any evidence to indicate what specific problem areas would have benefited from a single organization acting as a focal point. The implication was that somehow the problems would not have been as great if a single activity had been governing Army management policies, procedures, and supervision.

(2) Regarding the point that prior to DIPEC (1963) the Army centralized most IFE management responsibilities in PEQUA: PEQUA's role as a part of the old Ordnance Corps was played in an organizational context altogether different from that of the present. PEQUA at that time, as at present, had no responsibility for any equipment in laboratories, depots, or training centers.

All the criticisms dealing with failure to report to DIPEC, and these constitute a sizable part of the AAA criticisms, could not have been made. The variety of items required to be reported in 1963 were

much less than at the time of the AAA audit in 1968-1969.

PEQUA's responsibilities were primarily to serve in a central record-keeping capacity for production equipment, i.e., Federal supply group 34, and in an auditing capacity concerning how using facilities were managing production equipment. Table 14 lists the RAC study team's identification of IPE management functions and compares PEQUA's role before establishment of DIPEC with respect to (1) IPE policy formulation, and (2) IPE procedure writing. This table does not confirm the implication of near total coverage of IPE management contained in the AAA statement.

(f) Some additional categorization of the numerous criticisms of the methods used by AMC facilities in managing IPE is possible. A number of criticisms were the result of varying interpretations as to what constituted IPE. RAC views other criticisms as resulting from the failure of the AMC Equipment Management Program regulations to directly address IPE. Instances can also be cited of confusing, contradictory, overlapping, and nonexistent regulations or directives at all levels of the system. The DA staff level has contributed to these criticisms by its failure to recognize and fill the void that exists with regard to a policy statement on the need for a comprehensive equipment management and IPE management program or programs. Some of the criticisms can be traced to the profusion of memorandums at the DOD/DSA level and associated prolonged periods of indecision when faced with the need to take a stand on controversial questions. The large majority of criticisms, however, concern the failure of operating activities to adhere to published policy and procedure.

(g) Any advantages that may accrue to IPE management in the Air Force or Navy as a result of the former's centralization of its equipment management function or the latter's decentralization of its equipment management function is not apparent to the RAC study team. The criticisms of all three services in their management of IPE by auditing agencies offers little that favors one service's organizational concept over another's in more effective management of IPE.

(h) With regard to HQ AMC placing responsibility for integrated IPE management in either the Directorate of R&P or PEQUA, such a move would involve them in elements outside their present mission, e.g., in matters concerning OMA-funded programs, and RDTE-funded programs. In RAC's opinion

Table 14

FRAMEWORK FOR ANALYSIS OF PEQUA'S FUNCTIONS BEFORE ESTABLISHMENT OF DIPEC

Life Cycle Phases	IFE Management Functions	*PEQUA Performed	
		Yes	No
Requirements (PPB)	Operational Requirements Determination Mobilization Requirements Determination Authorization		X X X
Acquisition	Identification Requisitioning Procurement Loan/Lease Receipt	X X	X X X
Distribution	Property Accountability Utilization Redistribution Loan/Lease (Out of Layaway) Storage and Shipment	X X X	X X
Maintenance	Preventive Maintenance Repair Overhaul/Rebuild		X X X
Disposal (Disposition)	Idle/Excess Reporting Disposition	X X	

*Those marked "yes" indicate that PEQUA had responsibility for writing the regulations governing this area of IFE management and insuring that activities adhered to them.

it would also involve them in the formulation of a large amount of relatively petty detail as implied in formulating the procedural aspects of property accountability, requisitioning, FM records, etc. Rather than concentrate on integrating and controlling the Industrial Preparedness Program, their main mission, the directorate and/or PEQUA would be forced to dissipate their currently shrinking manpower on a relatively minuscule portion of its own program, and the programs of others.

(i) Table 15 is a partial listing of the AMC regulations pertaining to the management of equipment controlled by the Directorate of I&S, HQ AMC. Inherent in the concept of integrating equipment management in an activity other than the Directorate of I&S or ISA would be the need to duplicate a sizable number of these regulations in order to recognize IPE as a separate class of equipment. Were a single regulation in existence within AMC it might be possible, as in the NAVCOMPMAN,¹⁷ to set up a special class of property to cover IPE in military facilities and a special section dealing with procedures peculiar to IPE. However, the generation of a special set of regulations, or even of a single regulation, for IPE management may create that much more of a burden at the AMC activity/installation level.

(j) As was mentioned previously, AMC activities and contractors are the holders of the vast majority (over 96%) of Army IPE. As derived from the DIPEC SP-5 Report, dated 31 May 1971, Table 16 identifies the distribution of IPE within AMC by HQ AMC program directors, principal types of using organizations, and by quantity and related dollar value. The Directorate of Requirements and Procurement (R&P) controls the program governing the bulk, both in quantity and dollar value, of AMC IPE.

Table 17 expands on the information to the extent that it reveals the relative proportions of total equipment holdings of the various types of activities funded under the AMC Industrial Preparedness Program. This program is controlled out of the Directorate of R&P, HQ AMC. This chart compares IPE versus non-IPE, as well as designates whether the holding activity is a GOGO or GOCO/COCO facility. The implication in this latter point being whether or not the AMC Equipment Management Program governs as opposed to ASPR. (Although the data for Table 17 is from a source document dated approximately one year earlier than the source document

Table 15
AMCRs RELATING TO MANAGEMENT OF INSTALLATION EQUIPMENT

Number	Title
56-1	Utility Railroad Equipment
56-2	Operation and Use of Harbor Craft and Amphibious
58-2	Maintenance, Repair, and Replacement of Commercial Design Vehicles
58-5	Administrative Motor Services Cost and Performance (RCS-CSGLD-1404)
70-16	Management of Research and Development Laboratories and Activities
95-6	Management of AMC Internal Aircraft Fleet
385-2	Accident Reporting - Routing of Required Reports
385-6	Motor Vehicle Seat Belts
385-100	Safety Manual
420-19	Testing and Inspecting Unfired Pressure Vessels
700-9	Army Metrology and Calibration System
700-22	AMC Plant Equipment and Machine Tool Replacement
700-64	Equipment Management Program
700-69	Supply Discipline
700-75	Installation Equipment Management
710-4	Army Aircraft Inventory, Status, and Flying Time (RCS-AMC-130)
711-8	Maintenance of Authorized Stockage Lists
700-82	Installation Equipment Utilization Management
735-2	Pricing Policy
735-3	Tool Crib/Room Control of Current Service Tools and Minor Nonexpendable Equipment
735-5	Mechanization of Installation Property Books
735-6	Installation Operating Equipment Program (RCS-AMCIS-143)
750-5	Command Maintenance Management Inspections
750-13	Equipment Maintenance Shop Authorization
750-25	Inspection, Testing and Maintenance of Lifting Devices
750-41	Management of Test, Measurement and Diagnostic Equipment TMDE
755-9	Redistribution and Acquisition of Excess Installation Equipment

Table 16

DISTRIBUTION OF AMC IPE HOLDINGS BY QUANTITY AND DOLLAR VALUE

<u>HQ AMC Program Directors</u>	<u>Principal Types of Using Organizations</u>	<u>Quantity</u>	<u>%</u>	<u>Dollar Value (in millions)</u>	<u>%</u>
Requirements and Procurement	Contractors, Arsenals, Ammunition Plants	87,533	81.8	\$1,121.0	91.0
Maintenance	Maintenance Depots	8,808	8.2	55.0	4.5
Deputy for Laboratories	Laboratories	10,770	10.0	55.0	4.5
- - - - -	Misc.	<u>116</u>	<u>----</u>	<u>.4</u>	<u>-----</u>
	Total	107,227	100.0	\$1,231.4	100.0

Table 17
DISTRIBUTION OF AMC IPE AND NON-IPe AMONG INDUSTRIAL BASE SUPPORT FACILITIES
June 1970
(Dollar Values in Millions)

PART A - GOGO vs GOCO

Type Activity	GOCO				GOCO/GOCO			
	IPE		Non-IPe		IPE		Non-IPe	
	Value	% Total GOGO/GOCO	Value	% Total GOGO/GOCO	Value	% Total GOGO/GOCO	Value	% Total GOGO/GOCO
Arsenals	\$29.8	7.0	\$28.1	6.6	\$204.0	48.1	\$162.2	38.3
Ammunition Plants	None	----	None	----	233.2	40.0	350.5	60.0
Other Industrial Facilities	37.6	15.6	68.2	28.2	102.8	42.6	32.8	13.6
TOTALS	<u>\$67.4</u>	<u>5.4%</u>	<u>\$96.3</u>	<u>7.7%</u>	<u>\$540.0</u>	<u>43.2%</u>	<u>\$545.5</u>	<u>43.7%</u>

PART B - IPE vs NON-IPe

	IPE	NON-IPe
GOGO	\$ 67.4	\$ 96.3
GOCO/GOCO	540.0	545.5
TOTAL	<u>\$607.4</u>	<u>\$641.8</u>
% OF GRAND TOTAL	48.6%	51.4%

for Table 16, the relative distribution in the Table 17 would not have changed sufficiently to alter the point about to be made.)

Table 17 reveals that 87% of AMC's total equipment holdings under the Industrial Preparedness Program are in GOCO plants (Part A). In addition, of these total holdings 51% are non-IPE (Part B). To the limited extent that the Directorate of R&P controls ASFR, the letting of contracts for the operation and maintenance of these activities, and the Industrial Preparedness programming and budgeting, the Directorate of R&P manages both IPE and non-IPE in these facilities.

With respect to the remaining 13% of AMC Industrial Preparedness Program combined IPE and non-IPE holdings, the planning, programming, and budgeting for this equipment is controlled by the Directorate of R&P, while the AMC Equipment Management Program would govern for the large majority of IPE management functions described previously in Table 14.

Historically then, the Directorate of R&P through its Procurement Policy Division and the Industrial Preparedness Division (and its antecedents) have had the responsibility for exercising the bulk of managerial planning and control over the bulk of AMC's IPE.

CONCLUSIONS

Within the AMC complex IPE is found to be rather all pervasive. IPE is used in the execution of a variety of programs utilizing FEMA, RDTE, and OMA funds. The AMC field activities executing these programs span several major organizational activities at the headquarters level. Integration of the PPB aspect of FEMA, RDTE, and OMA-funded IPE management, is obviously not a solution. IPE management is a means toward an end, not an end in itself. In addition, detailed examination of the criticisms that have been leveled against the Army concerning IPE management reveal that they occur primarily in the execution phase, i.e., the manner in which individual operating elements manage their holdings of IPE. A critical problem from the headquarters viewpoint is its inability to effectively control the manner in which activities—arsenals, laboratories, depots, etc—are maintaining property accounts, maintenance records, utilization records, etc. In the preceding chapters numerous suggestions have been made concerning needed corrections or modifications. These suggestions involve a sizable

number of regulations and a great number of diverse proponents of such regulations. A synthesis of these regulations is needed, a point that reinforces the desirability of integrating not just IPE management but equipment management within AMC.

The intense pressure that has been brought to bear on the Army because of the deficiencies in IPE management places HQ AMC in very great danger of losing perspective. Regardless of the volume of criticism, IPE must be recognized as being only a part of a much broader AMC facilities and equipment resource base. Many of the problems associated with IPE, e.g., in the areas of equipment utilization and maintenance, should be viewed as symptomatic of the problems that may exist in AMC's entire equipment management program. As the principal advisor to the commanding general on installations management, the Director of I&S, HQ AMC provides policy guidance and staff supervision over the functions relating to the management of the physical plant and the capital equipment essential to mission accomplishment.

Because of these considerations RAC views the management of IPE in use, or in layaway lines in military facilities, as a subset to the management of the entire AMC equipment base. RAC also views the solution of the majority of problems associated with IPE in use and in layaway lines in military facilities as being resolved by emphasizing, rather than duplicating the existing AMC Equipment Management Program. Although the Program has shortcomings, it does represent a comprehensive and reasonably well-thought-out approach to a large segment of AMC equipment management. In addition, it contains within it the concept of an organizational structure for carrying out this Equipment Management Program. This structure extends from a single HQ AMC directorate into every AMC field activity regardless of the nature of the activity's mission or of its source of funds.

With respect to Government-owned equipment in use and in layaway lines, in contractor-operated plants (GOCO and COCO), the Procurement Policy Division, Directorate of R&P, HQ AMC, should, in RAC's opinion, represent AMC in performing management responsibilities on related policy and procedural matters subject to staffing coordination with the various programming directorates, e.g., R&P RDE, and Maintenance.

The foregoing approach would achieve:

(1) A single point of contact within AMC for policy, procedural, and policing matters relating to IPE both in use and in layaway lines in military facilities.

(2) A single point of contact within AMC for policy, procedural, and policing matters relating to IPE, both in use and in layaway lines in contractor-operated facilities.

However, while providing a practical long-term solution to the question of how far one should centralize the management of IPE, the proposed approach leaves something to be desired in terms of coordinating and implementing the corrective actions proposed elsewhere in this report. Until such time as the majority of the proposed system changes have been implemented, no more than 12-18 months, it is hoped, HQ AMC may wish to designate the Directorate of R&P, this study's sponsor, as the temporary focal point for all matters pertaining to IPE, with the exception of PFB matters.

SUMMARY

The question being addressed was how best to permit the integration and control of all IPE activities under a single management. Also to be considered was the possibility of consolidating IPE activities under PEQUA or ISA.

In examining these questions it was noted that the three military services are quite dissimilar in their individual organizational structures pertaining to IPE management. In comparing IPE management to the broader spectrum of equipment management it was found that for organizational equipment both the Air Force and Navy subsume IPE management under their own individualistic programs of equipment management. For equipment in the hands of contractors, both services treat IPE separately, procedurally and organizationally.

A review of the Army revealed no comprehensive equipment management concept at the DA Staff level. However, AMC has an Equipment Management Program. Although possessing shortcomings, it is a comprehensive program. Recognition was taken of the unique characteristics distinguishing the management of IPE at military facilities from that at contractor facilities. The difficulties in attempting to integrate the management of IPE in these

two environments were also recognized. It was concluded that the majority of IPE management functions relating to in-use and layaway IPE at military facilities should be integrated under the Directorate of I&S, HQ AMC and ISA. The majority of IPE management functions relating to in-use and layaway IPE at contractor plants should be integrated under the Procurement Policy Division, Directorate of R&P, HQ AMC. PPB affecting IPE, including funding administration, would remain with the Directorates of R&P, Maintenance, and RDE.

However, on a temporary basis and solely for purposes of coordinating and implementing the numerous system changes proposed by the RAC study team, HQ AMC may wish to designate the Directorate of R&P, HQ AMC, as the coordinator for all matters pertaining to IPE management, other than PPB which will continue to be the responsibilities of the functional elements.

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Appendix A
DEFINITIONS OF IPE MANAGEMENT FUNCTIONS

REQUIREMENTS

Operational Requirements Determination

This function refers to the computation of future net initial issue and replacement requirements for IPE based on the various applications, both mission and product oriented, which are anticipated under non-mobilization end-item planning conditions. Excluded are requirements for layaway lines (ASDs). Operational requirements are programmed under FEMA, OMA, and RDTE accounts and consist of (a) AMC-projected industrial requirements, (b) AMC-projected nonindustrial requirements, and (c) non-AMC-projected military supply-oriented needs of TOE/MTOE and TDA/MTDA units.

AMC-projected industrial requirements apply to COCO and GOCO facilities, as well as to AMC arsenals.

AMC-projected nonindustrial requirements apply to AMC maintenance depots, support centers, RDTE labs, test centers, project managers, and other miscellaneous AMC activities.

Non-AMC-projected military supply-oriented needs encompass TOE/MTOE and TDA/MTDA units, both CONUS-based and overseas.

Mobilization Requirements Determination

This function refers to the computation of that quantity of IPE, forming a part of layaway lines, required to meet the mobilization production rates specified for selected items of materiel.

Authorization

This function encompasses essentially two separate processes each of which is viewed as providing all or part of the approval to bring IFE into the Army system. One process is the funding authorization process which, for IFE, implies three major types of funds: FEMA, OMA, and RDTE. This process has its roots directly in the Army's PPB system. The second process relates directly to The Army Authorization Documents System (TAADS). However, this process currently has very little application to any of the AMC-projected industrial requirements.

ACQUISITION

Identification

Identification is the process of determining whether equipment is IFE or not. It is a prerequisite to requisitioning, procurement, inventory recording, and reporting of DIPEC.

Requisitioning

Requisitioning is the process of submitting an authorized demand or request for IFE through appropriate channels to DIPEC and receiving a final response.

Procurement

Procurement is the functional activity of procuring IFE from vendors/manufacturers. The function involves maintenance of vendors/manufacturers' lists, development and distribution of procurement packages, advertising bids, evaluation of offers, contract negotiation, and award.

Loan or Lease

Loaning or leasing IFE (in contrast to requisitioning/procurement) is an additional method of acquiring IFE for purpose of mission accomplishment. Loan or lease of IFE may be obtained intraservice or interservice.

Receipt

Receipt is the process of accepting equipment into inventory. It

includes inspection, rejection, and classification of the equipment. Completion of receiving documentation verifying item count and condition are a part of the receipt process. Another function of receipt requires notification of applicable internal and external organizational elements of the item's receipt.

DISTRIBUTION

Property Accountability

Property accountability refers to the system for recording, accounting, and surveying the identification, quantity, location, and condition of Government-owned IPE. The using or storing activity may be a military or contractor facility.

Utilization

Utilization encompasses the determination of whether IPE on hand is to be considered in an idle or excess status. It may include the recording and evaluation of the operation or use of IPE.

Redistribution

Redistribution includes the determination to convert a current production line to layaway package status, or to retain, through transfer within the Army, individual pieces of IPE at the expiration or termination of a contract for producing an end item.

Loan or Lease (Out of Layaway)

Loan or lease from layaway consists of transferring IPE from one service to another, or from one installation to another within the Army, and assuring the replacement or return of the IPE to the ASD from which it was borrowed.

Storage and Shipment

Storage refers to obtaining storage space and the storage of IPE in compliance with applicable regulations.

Shipment includes compliance with DIPEC advice codes, MIL STD 107C,

and DD Form 1149, and determining the most economical method of shipping; issuing work instructions; evaluating changes to packing, crating, and handling contracts; ordering shipping skids, if necessary; assuring that loading and shipping has been accomplished; obtaining bill of lading; and notifying DIPEC and the consignee of shipment.

MAINTENANCE

Preventive Maintenance

Preventive maintenance is the process of performing periodic maintenance services on equipment for the purpose of minimizing downtime, reducing expensive repairs, and prolonging equipment life.

Repair

Repair is the process of performing the maintenance required to correct material damage or failure, as necessary, and/or to restore a malfunctioning or defective item to normal operating condition.

Rebuild/Overhaul

Rebuild or overhaul is the process of restoring an item to a standard, as nearly as possible, to original or new condition in appearance, performance, and life expectancy.

DISPOSAL

Idle/Excess Reporting

Excess reporting is the process of submitting an idle declaration to DIPEC for IPE that has become excess to the holding activity's needs, as a result of being made idle due to production phase down, contract termination, or underutilization.

Disposition

The disposition function encompasses compliance with DIPEC disposition instructions for turning accountability of property over to PDO preparatory to disposal (donation, sale, abandonment, destruction). Disposition of IPE in both Government-operated as well as contractor-operated facilities is encompassed within this function.

APPENDIX B

PROPOSED CEMPR GUIDE — PART IV

PART IV

MANAGEMENT OF INDUSTRIAL PLANT EQUIPMENT (IPE) AND MACHINE TOOLS

YES NO

☐ ☐

- a. Are all requests for acquisition of IPE and Machine Tools submitted through the Equipment Manager? ☐ ☐
- b. Are all items of IPE and Machine Tools properly authorized? ☐ ☐
- c. Is the authorization for each item of IPE and Machine Tools properly noted on property records? It will be annotated on property books and either noted on DA Forms 661 or backup data will be available. ☐ ☐
- d. Is all IPE reported to DIPEC as required by AR 700-43? ☐ ☐
- e. Have local utilization standards been established for IPE and Machine Tools as required by AMCR 700-32? ☐ ☐
- f. Does the utilization of IPE meet the minimum criteria? (Use 20% minimum, 40% Objective Criteria if local standards have not been established). ☐ ☐
- g. Is idle out-of-use IPE reported to DIPEC in 10 days as required by AR 700-43 and para 5-5d, AR 700-90. ☐ ☐
- h. Is Preventive Maintenance performed on all IPE and Machine Tools on a repetitive basis? (Para 5-5c(1), AR 700-90). ☐ ☐

- | | <u>YES</u> | <u>NO</u> |
|---|--------------------------|--------------------------|
| i. Are SOP's or guides published covering minimum requirements? | <input type="checkbox"/> | <input type="checkbox"/> |
| j. Are sufficient records kept to validate the PM Program? (Para 5-5c(2), AR 700-90). | <input type="checkbox"/> | <input type="checkbox"/> |
| k. Is DIPEC screened prior to procurement, rebuild, and/or repair as outlined in AR 700-43 and para 5-5c(3), AR 700-90. | <input type="checkbox"/> | <input type="checkbox"/> |

REMARKS:

APPENDIX C

SUGGESTED CONSOLIDATION OF EQUIPMENT UTILIZATION/POOLING QUESTIONS FOR CEMPR GUIDE

PART I

EQUIPMENT REVIEW

	<u>YES</u>	<u>NO</u>
a. Equipment Utilization		
(1) Is observed equipment being properly used?	<input type="checkbox"/>	<input type="checkbox"/>
(2) Is there evidence that all equipment has been used with sufficient regularity or that anticipated workload is such as to justify retention?	<input type="checkbox"/>	<input type="checkbox"/>
(3) Are proper records annotated showing use of equipment?	<input type="checkbox"/>	<input type="checkbox"/>
(4) Is utilization data collected quarterly on selected category items?	<input type="checkbox"/>	<input type="checkbox"/>
(5) Are local utilization criteria developed and published for other categories of equipment?	<input type="checkbox"/>	<input type="checkbox"/>
(6) Is utilization data collected on other category items?	<input type="checkbox"/>	<input type="checkbox"/>
(7) Are Equipment Utilization Reports prepared quarterly by the EMO?	<input type="checkbox"/>	<input type="checkbox"/>
(8) Is utilization data collected on prescribed forms?	<input type="checkbox"/>	<input type="checkbox"/>
(9) Does the utilization of IE by categories meet the minimum criteria?	<input type="checkbox"/>	<input type="checkbox"/>
(10) Is the utilization data accurate and current?	<input type="checkbox"/>	<input type="checkbox"/>

Remarks:

	<u>YES</u>	<u>NO</u>
b. Equipment Pool Operation and Facilities		
(1) Is the equipment in the pool accurately identified?	<input type="checkbox"/>	<input type="checkbox"/>
(2) Is a locator system used for pooled equipment?	<input type="checkbox"/>	<input type="checkbox"/>
(3) Is equipment availability readily determined?	<input type="checkbox"/>	<input type="checkbox"/>
(4) Are pooled items available to all activities?	<input type="checkbox"/>	<input type="checkbox"/>
(5) Is an inventory of pooled items published and readily available?	<input type="checkbox"/>	<input type="checkbox"/>
(6) Are pooled items exempted from maintenance recall?	<input type="checkbox"/>	<input type="checkbox"/>
(7) Are pooled items exempted from calibration recall?	<input type="checkbox"/>	<input type="checkbox"/>
(8) Is there evidence that pool inventories are reviewed periodically for excess items?	<input type="checkbox"/>	<input type="checkbox"/>
(9) Is the justification for underutilized items realistic and documented?	<input type="checkbox"/>	<input type="checkbox"/>
(10) Have recent utilization studies been made on other than selected categories of IE (within 6 months)?	<input type="checkbox"/>	<input type="checkbox"/>
(11) Is there evidence that the utilization data is used in internal management? (DF's, Board Reviews, etc.)	<input type="checkbox"/>	<input type="checkbox"/>

Remarks:

APPENDIX D

DCAS OFFICE: _____

DATE(S) OF SURVEY: _____

SURVEYOR & SYMBOL: _____

CHECK LIST
FOR WORK PAPERS
ON CONDUCTING PLANT SURVEYS

I. GENERAL INFORMATION REQUIRED:

- ☐ CONTRACTOR & ADDRESS
- ☐ IPE UTILIZATION ☐ REAL PROPERTY UTILIZATION
- ☐ OPE UTILIZATION ☐ REAL PROPERTY MAINTENANCE
- ☐ CONTRACT NO., TYPE OF CONTRACT, AND EXPIRATION DATE.
(NOTE: LIMITED TO ONE (1) CONTRACT PER SURVEY.)
- ☐ PROCURING ACTIVITY & LOCATION
(IDENTIFY FACILITY CONTRACT ISSUING OFFICE, IF APPLICABLE.)
- ☐ PRIME AND/OR SECONDARY CONTRACT ADMINISTRATION
(IDENTIFY OFFICE & LOCATION, AS APPLICABLE.)
- ☐ IDENTIFY NAME(S) & TITLE(S) OF CONTRACTOR PERSONNEL CONTACTED
- ☐ IDENTIFY IF FACILITY IS GOVERNMENT-OWNED/CONTRACTOR OPERATED,
OR CONTRACTOR-OWNED.
- ☐ IDENTIFY ALL OTHER CONTRACTS, TYPE OF CONTRACT, AND EXPIRATION
DATE; NUMBER AND DOLLAR VALUE OF IPE/OPE AND/OR REAL PROPERTY,
ON EACH, HAVING INDUSTRIAL FACILITIES AT THIS SAME LOCATION.
(REPORT UTILIZATION SURVEY ON EACH CONTRACT SEPARATELY, AND
CROSS-REFERENCE EACH SURVEY.)
- ☐ IF REAL PROPERTY MAINTENANCE SURVEY WILL BE ACCOMPLISHED AT A
LATER DATE, STATE WHEN. IF NOT APPLICABLE, SO STATE.
- ☐ CHECK INFORMATION WITH "FINANCIAL REPORT OF CONTRACTORS POSSESSING
GOVERNMENT PROPERTY," FURNISHED BY CONTRACT ADMINISTRATION
DIVISION.

CHECK LIST FOR WORK PAPERS (Continued)

II. SURVEY DATA:

A. PLANT PERSONNEL:

- ☐ TOTAL NUMBER ☐ DIRECT LABOR ☐ INDIRECT LABOR
☐ TOTAL CURRENT AVERAGE PLANT HOURS ☐ NO. SHIFTS
 ☐ HRS./DAY ☐ DAYS/WEEK

B. CONTRACTOR'S PROCEDURES:

- ☐ DOES CONTRACTOR HAVE WRITTEN PROCEDURES FOR GOVERNMENT-OWNED PROPERTY UTILIZATION? MINIMUM STANDARDS?
☐ HAVE CONTRACTOR PROCEDURES BEEN APPROVED BY THE PROPERTY ADMINISTRATOR (P.A.)? WHEN?
☐ IS THAT PORTION OF THE CONTRACTOR'S PROCEDURES PERTAINING TO IPE/OPE UTILIZATION AND REAL PROPERTY USE/MAINTENANCE ADEQUATE?
☐ HAS PRODUCTION SUBMITTED RECOMMENDATIONS TO THE P.A. FOR IMPROVEMENT OF CONTRACTOR'S PROCEDURES? WHEN?
☐ IS CONTRACTOR FOLLOWING HIS APPROVED PROPERTY PROCEDURES?

C. DETAILED SURVEY DATA ON THIS CONTRACT:

- ☐ STATE WHY SURVEY IS BEING MADE AT THIS TIME:
 ☐ PRODUCTION COMPLETE ☐ CONTRACT TERMINATED
 ☐ SCHEDULE STRETCHOUT ☐ PARTIAL SURVEY
 ☐ ANNUAL SURVEY ☐ NEW CONTRACT ☐ OTHER
☐ STATE PRIMARY PURPOSE OF CONTRACT
☐ IS PRIMARY PURPOSE STILL CURRENT?
☐ IF NOT CURRENT, WAS RECOMMENDED CHANGE SUBMITTED? WHEN?
☐ STATE TOTAL NUMBER AND DOLLAR VALUE OF IPE.
☐ STATE TOTAL NUMBER AND DOLLAR VALUE OF OPE.
☐ STATE TOTAL ITEMS AND DOLLAR VALUE OF REAL PROPERTY, IF APPLICABLE; IF NOT, SO STATE.
☐ STATE ADEQUACY OF CONTRACTOR'S IPE/OPE UTILIZATION AND REAL PROPERTY MAINTENANCE RECORDS.

CHECK LIST FOR WORK PAPERS (Continued)

- ☐ IDENTIFY THE PRINCIPAL SUPPLY/R&D CONTRACTS AND END DELIVERY DATES WHICH AUTHORIZED THE USE OF THE PLANT EQUIPMENT. IF THIS IS A FACILITY CONTRACT, SO STATE.
- ☐ WHAT "OTHER AUTHORIZED USE" (GOVERNMENT OR COMMERCIAL) OF INDUSTRIAL FACILITIES HAS BEEN ESTABLISHED?
- ☐ HAVE OTHER AUTHORIZED USE APPROVALS BEEN REQUESTED/OBTAINED FROM THE ACO?
- ☐ DOES CONTRACTOR PLAN "MACHINE LOADING" OF IPE/OPE?
- ☐ STATE IF A PHYSICAL REVIEW WAS MADE OF "HIGH VALUE" (OVER \$25,000) EQUIPMENT, AND STATE SAMPLE SIZE OF IPE/OPE ITEMS. (REVIEW OF REAL PROPERTY, IF APPLICABLE.)
- ☐ STATE WHETHER CONTRACTOR LOADS HIS OWN EQUIPMENT PRIOR TO LOADING GOVERNMENT OWNED IPE/OPE.
- ☐ STATE WHETHER QARs OR OTHER PERSONNEL HAVE REPORTED IPE/OPE ITEMS IN QUESTIONABLE UTILIZATION STATUS, OR DEFICIENT REAL PROPERTY MAINTENANCE, IF APPLICABLE.
- ☐ IDENTIFY IPE/OPE, AND DOLLAR VALUE, THAT MAY BE DECLARED EXCESS BY COMBINING WORK OF TWO OR MORE MACHINES ON A SINGLE MACHINE WITH LOW UTILIZATION RATE.
- ☐ STATE WHETHER ALL AUTHORIZATIONS ARE CURRENT FOR "INACTIVE PACKAGE PLANTS," "STANDBY LINE(S)," "ACTIVE BASE PACKAGES," OR FIRM FOLLOW-ON COMMITMENT BY THE PROCURING ACTIVITY AND/OR THE FACILITIES CONTRACT ISSUING OFFICE.
- ☐ STATE "TREND" OF CONTRACTOR'S VOLUME OF AUTHORIZED USE, AND PROJECTION (ORDER BOARD) OF FUTURE VOLUME, IDENTIFIED BY "MAN-HOURS" OR "SALES VOLUME."
- ☐ IDENTIFY NUMBER AND DOLLAR VALUE OF IPE/OPE ITEMS THAT CONTRACTOR HAS DECLARED "EXCESS" SINCE LAST SURVEY. INCLUDE "REAL PROPERTY," IF APPLICABLE.
- ☐ LIST IPE/OPE, AND DOLLAR VALUE, OF ITEMS HAVING QUESTIONABLE RETENTION JUSTIFICATION. INCLUDE "REAL PROPERTY," IF APPLICABLE.
- ☐ HAS CONTRACTOR PREPARED "PHASE-OUT" PLAN? WHEN SUBMITTED TO GOVERNMENT? IF NOT, STATE CURRENT STATUS AND TARGET FOR COMPLETION.

NOTE: IF A FORM IS DEVELOPED FOR USE CONTAINING ITEMS ON THIS CHECK LIST, USE ONLY AS A WORK PAPER — DO NOT TYPE OR SUBMIT AS ATTACHMENT TO SUMMARY REPORT. RETAIN WORK PAPERS IN PRODUCTION CONTRACT WORK FOLDERS. (SEE SEPARATE "CHECK LIST" FOR SUMMARY REPORT.)

CHECK LIST

SUMMARY REPORT

FOR IPE/OPE UTILIZATION SURVEYS: REAL PROPERTY MAINTENANCE SURVEYS

(FORMAT FOR INTER-OFFICE MEMO (IOM), DSA FM 111, OR LETTER.)

- ☐ DATE: (SUMMARY DATE MUST BE WITHIN 10 DAYS AFTER DATE OF COMPLETION OF PHYSICAL SURVEY.)
- ☐ SUBJECT: ☐ TYPE OF SURVEY (e.g., UTILIZATION SURVEY - PARTIAL, ANNUAL, SPECIAL, MAINTENANCE OF REAL PROPERTY, OTHER).
- ☐ CONTRACTOR AND LOCATION/ADDRESS PLANT.
- ☐ CONTRACT NUMBER (LIMIT TO ONE CONTRACT PER SUMMARY REPORT).
- ☐ FROM: (IDENTIFY OFFICE BY NAME AND CODE.)
- ☐ TO: (IDENTIFY OFFICE BY NAME AND CODE.)

FORMAT OF SUMMARY

(See ASRP S-3402.5)

I. INTRODUCTION: IDENTIFY CONTRACTOR'S NAME (INCLUDING SUBSIDIARY OR DIVISION), PLANT ADDRESS, PERIOD OF SURVEY, AND TYPES OF INDUSTRIAL PROPERTY INVOLVED.

II. METHOD USED: EXPLAIN METHOD OF PERFORMING SURVEY. (USE GENERAL TERMS — 100% OF ALL ITEMS; 100% OF ITEMS \$25,000 VALUE; SAMPLING TECHNIQUES DESCRIBED IN ASRP S3-402.7 AND ANNEX II OF ASRP SUPPLEMENT NO. 3, OR A COMBINATION OF ALL.)

III. CONCLUSIONS: STATE CONCLUSIONS REACHED (BE BRIEF, DO NOT REPEAT ALL DATA CONTAINED IN WORK PAPERS. IF THE CONTRACTOR'S PROCEDURES ARE SATISFACTORY, SAY SO AND STOP. IN EVENT OF FINDINGS OF UNSATISFACTORY CONDITIONS, IDENTIFY, IN DETAIL, THE CONDITIONS AND OR DEFECTS FOUND.

IV. ACTIONS REQUIRED/RECOMMENDATIONS: LIST RECOMMENDATIONS REQUIRED TO CORRECT THE UNSATISFACTORY CONDITIONS FOUND, IF ANY, AND STATE WHO OR WHAT OFFICE HAS TO TAKE THE CORRECTIVE ACTION.

V. WHEN CONDITIONS WARRANT (i.e., INDICATION OF SIGNIFICANT NON-COMPLIANCE WITH CONTRACT REQUIREMENTS; DIVERSION OR MISUSE OF GOVERNMENT PROPERTY; OR OTHER CONTINUED FAILURES JEOPARDIZING THE INTERESTS OF THE GOVERNMENT), COPIES OF THE SUMMARY SHALL BE PROVIDED TO:

CHECK LIST SUMMARY REPORT (Continued)

- ☐ ADMINISTRATIVE CONTRACTING OFFICER.
- ☐ PROCURING CONTRACTING OFFICER.
- ☐ FACILITY CONTRACT ISSUING OFFICE.
- ☐ PRE-AWARD SURVEY MONITOR.

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